University of Alberta

Defying the Odds: Academic Resilience of Students With Learning Disabilities

by

Ursula Gardynik

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Abstract

School achievement is decidedly important in today's society, and is a factor in positive adaptation. A learning disability (LD) is an adversity that is frequently linked to poor academic outcome. The purpose of this study was to look at factors that influenced the pursuit of a university education and by definition enhanced positive adaptation. Both qualitative and quantitative methodologies were used. Two separate interrelated studies were conducted. Themes generated from the interview data in the qualitative component of the study were used as the foundation to create a survey utilized in the quantitative component of the study. This dissertation contains a series of three papers that are logically connected. After a brief introduction, the first paper presents the risk/resilience model as a valuable tool for clarifying and making sense of the complexity of the interaction between individuals with LD and their environment. First, the definition of a learning disability and the paradigm shift in the field of learning disabilities is discussed. Second, the models that link risk and resilience is examined, followed by a brief survey of research on resilience. Lastly, the resilience framework is applied to students with LD. The second paper describes the qualitative component of the research, which used a basic interpretive qualitative design. Common themes were derived from storied narratives. These themes were: determination, working harder, helpfulness, positive perceptions, supporters, diverse trajectories to university, and accommodations. The rationale for the use of detailed narratives, the methodology used, the data analysis, and the themes found are discussed. The third paper describes the quantitative component of the study. The themes generated from the interviews were used in this study to form the foundation for a survey instrument that was utilized to determine how prevalent these themes were in a larger sample. The themes proved to be important in academic resilience. The dissertation concludes with a paper that briefly summarizes the studies,

synthesises the results of both components of the study, suggests avenues for future research, and includes a personal comment.

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CHAPTER 1:

INTRODUCTION

> The other statement that sticks in the back of my mind came on the first day of class in grade 11 in an English class no less. It was something like this: "The act of failing is not in the falling down but in the act of not getting back up again." This means to me, when things go wrong and I let them get to me, I fail, but I don't fail when I am willing to try again or try something new. (Amanda)

Resilience has been delineated as "successful adaptation, positive functioning, or competence despite high-risk status, chronic stress, or following prolonged or severe trauma" (Egeland, Carlson, & Sroufe, 1993, p. 517). However, research on resilience did not emerge from a theoretical foundation, but rather through researchers identifying the phenomenological characteristics of survivors, mostly young people, living in high-risk situations (Richardson, 2002). It was while studying the biological, environmental, psychological, and cognitive risk factors that hinder normal development (Dole, 2000) or that are statistically associated with a higher probability of negative life outcomes (Masten, 2001) that researchers found that even under the most adverse circumstances there are protective factors that buffer an individual's response to adversity, resulting in positive adaptation or resilience. Significant numbers of children raised in the most adverse circumstances developed into competent and productive adults (Garmezy, 1991; Werner & Smith, 2001). Therefore, research on resilience has evolved from viewing resilience as the absence of psychopathology toward viewing resilience as a manifestation of competence and adaptive behaviour (Kinard, 1998).

The risk and resilience model has captured the attention of educators, service providers, legislatures, and researchers (Doll & Lyon, 1998) because it is based on the belief that if the traits or factors that create resilience can be identified, these traits may be developed or these factors altered in those individuals that are not so resilient (Bryan, 2003). Therefore, research on resilience holds great promise, because the possibility

exists of fostering resilience through preventive interventions and programming (Doll & Lyon, 1998). The challenge to researchers is to identify what conditions encourage resilience. Students who are learning disabled pose such a challenge because they possess an exceptionality that constitutes a risk (Morrison & Cosden, 1997; Yewchuk, Delaney, Cunningham, & Pool, 1992).

In recent years, there has been a paradigm shift in the field of learning disabilities from a problem-oriented approach underlying the deficit model to an empowering and nurturing strengths model (Margalit, 2003), or from identifying the characteristics that put the child at risk for learning disabilities and social problems (Bryan, 2003) to identifying the protective factors that may ameliorate some of the problems associated with learning disabilities (Morrison & Cosden, 1997) and support positive adaptation. Surprisingly, given the considerable empirical research on resilience, there are still few studies that investigate the resilience of individuals with learning disabilities (Margalit, 2003; Miller, 2002; Morrison & Cosden, 1997).

Issues in Conducting Research on Resilience

Research on resilience attempts to establish links between circumstances and outcomes by means of retrospective and prospective studies. Studies on resilience continue to be largely empirically driven, rather than being theoretically based (Luthar, Cicchetti, & Becker, 2000). This has resulted in several issues that need to be taken into consideration when reviewing or conducting resilience research.

Definitions

There is little consensus in the theoretical and research literature on the definition of resilience. Resilience is variously conceptualized in theoretical writing. For example, the cognitive appraisal theory of resilience developed by Mrazek and Mrazek (1987) proposes that "responses to stress are influenced by appraisal of the situation and the

capacity to process an experience, attach meaning to it, and to incorporate the experience into one's belief system" (Jew, Green, & Kroger, 1999, Introduction Section). However, central to the organizational-developmental model developed by Wyman, Cowen, Work, Hoy-Meyers, Magnus, and Fagen, (1999), "is the concept of adaptation, an active process through which a child draws on internal and external resources in seeking to master stage-salient tasks" (p. 646).

In the research literature, resilience has been defined as "a dynamic process encompassing positive adaptation within the context of significant adversity" (Luther et al., 2000, p. 543) or as the positive end of the distribution of developmental outcomes among individuals at high risk (Rutter, 1987, 1990). In qualitative research, resilience is "less an enduring characteristic than a process determined by the impact of particular life experiences among persons with particular conceptions of their own life history or personal narrative" (Anthony & Cohler, 1987, p. 406). Masten (1994) distinguished three ways of illustrating resilience: (a) at risk individuals who show better-than-expected outcomes, (b) individuals who display positive adaptation that is maintained despite the occurrence of stressful experiences, and (c) individuals who demonstrate good recovery from trauma.

Formulating Operational Definitions

Approaches taken to operationalize resilience vary across studies. Most commonly, two criteria are used: risk status or exposure to adversity or trauma, followed by satisfactory adjustment or adaptation (Masten & Coatsworth, 1998; Smokowski, Reynolds, & Bezuczko, 1999). However, adverse conditions that have been examined have ranged from single stressful life experiences such as war and poverty to learning disabilities and multiple negative events or "*hassles*" (Dumont & Provost, 1999). Similarly, how satisfactory adaptation has been defined has varied; individuals may

excel at multiple adjustment domains or demonstrate excellent adaptation in only one salient sphere, such as academic achievement (Luthar et al., 2000).

Multidimensional Nature of Resilience

Resilience cannot be identified at one point in time or with respect to a single outcome. It can be inferred from the recognition of competence as well as from the absence of failure (Pianta & Walsh, 1998). Resilience is, rather, the interaction between many variables: constitutional risk factors and stressful life events and the protective factors within the individual, as well as the family environment and society. In addition, at-risk individuals who are considered resilient do not necessarily exhibit competence across all areas of functioning (Luthar et al., 2000). Furthermore, competence levels change over time (Pianta & Walsh, 1998), and competence may be attained at the cost of internalized anxiety and lowered self-esteem (Waldron, Saphire, & Rosenblum, 1987).

In order to operationalize "*positive adaptation*," resilience researchers have used state-salient tasks that met societal expectations associated with that particular life stage. However questions arise as to whether some outcomes should be given priority over others, whether multiple domains should be considered separately or integrated, and whether the criteria of resilience should be reserved for excellent, as opposed to average, levels of competence (Luthar et al., 2000). Research in the area of resilience attempts to link circumstances and outcomes. However, research that attempts to link circumstance to outcomes may be misinterpreted. Correlations may be misconstrued as causes, related variables may be treated as if they are unrelated, and hypothesis generation may be confused with hypothesis confirmation (Baden, 1999).

Measurement

The type of measurements used in individual studies varies, with researchers frequently relying on self-reports and instruments that lack evidence of validity and

reliability. There is also diversity in the number of data sources, and the scoring criteria that are deemed necessary to measure resilience. Researchers are not clear whether individuals should be considered resilient only if they meet criteria for all domains tested, or if resilience should be examined separately for different domains. Standardized cut-off points on measures are not always used, making it a challenge to compare results. Measures defining resilience may need to be changed over time, as the criteria for resilience are dependent on the individual's developmental stage.

It is difficult to determine the level of competence prior to a stressful event, if individuals are not functioning within normal limits prior to adversity. Should coming back to a basal level of functioning be considered resilient (Kinard, 1998)? It is difficult to determine whether all individuals who are considered resilient have experienced comparable levels of adversity or experienced it similarly (Luthar et al., 2000). Is a separate measurement needed to measure an individual's evaluation of an event? Also, individuals at high risk do not necessarily maintain consistent positive adjustment over time, necessitating longitudinal studies. Given the complexity of factors that influence development, establishing connections between circumstances and outcomes poses some difficulties.

Unquestionably there are inherent difficulties with research in the area of resilience. However, rather than harshly judging research in this area, empirical evidence in the field of psychology must be evaluated "in terms of scientific consensus rather than breakthrough, in terms of gradual synthesis rather than great leaps" (Stanovich, 2004, p. 123). Empirical research in the area of resilience has added and expanded knowledge of the construct, and the findings have expand our understanding of variables that may facilitate successful outcomes for individuals at risk. Research on

resilience continues to be of paramount importance, due to its possible linkage with interventions and its implication for preventive policies.

Purpose of the Study

School achievement is decidedly important in today's exceedingly literary and numerical society. The completion of some form of postsecondary schooling contributes to ultimate success in the workplace, and is a factor in positive adaptation. A learning disability is an adversity that is linked statistically to poor academic outcome (American Psychiatric Association, 2000; Barga, 1996), whereas attendance at university represents a relatively good academic outcome. Surprisingly, very few empirical studies have focused on resilience in university/college students with learning disabilities. The studies of college students with learning disabilities that are available deal predominantly with admission criteria (Vogel & Adelman, 1992; Wilczenski, & Gillespie-Silver, 1992) and the academic performance of college students (Vogel & Adelman; 1992), as well as the factors or coping strategies that contribute to the success of these students while in college (Barga, 1996; Cowen, 1988; Greenbaum, Graham, & Scales, 1995; Skinner, 2004). It is important that research be conducted to identify those factors that are instrumental in enhancing the likelihood of individuals with learning disabilities attaining educational levels that are commensurate with their potential. The primary purpose of the studies reported in this dissertation was to look at those factors that influence the pursuit of a university education and that enhance positive adaptation.

Due to the multidimensional nature of the concept of resilience, this research used both qualitative quantitative methodologies (Luthar et al., 2000). A qualitative approach focusing on soliciting personal narratives enabled depth and meaning to emerge on the individual level, resulting in a clearer and more in-depth understanding of the person-based and environmental variables that are associated with resilience

(Garmezy, 1988). Through the use of a quantitative methodology, the merit of the themes that emerged was tested over a more comprehensive data sampling. Two separate but interrelated studies were conducted to answer the following question:

What are the common themes in the stories of undergraduate university students with learning disabilities that related to their academic resilience?

Both qualitative and quantitative methods were employed in these studies, in that the themes generated from the interview data in the qualitative component of the first study were used to form the foundation for a survey instrument that was utilized in the quantitative component of the second study (Scorgie & Sobsey, 2000).

Dissertation Format

The dissertation is written in a paper format, in that it contains a series of three papers that are logically connected. Although the papers were prepared as "stand alone" articles, they are integrated in a coherent manner by means of a concluding chapter. The first paper places the research in the larger context of the relevant research in the areas of resilience and learning disabilities, sets out the rationale for the thesis, and provides conceptual connectedness for the subsequent chapters. The second paper describes the qualitative component of the research. This component of the research used narratives as data to identify the factors that influenced students with learning disabilities to pursue a university education. The rationale for the use of detailed narratives, the methodology used, data analysis, and the themes found will be discussed. The third paper describes the quantitative component of the research. A questionnaire was developed using the themes generated from the qualitative study. The questionnaire was tested within a small pilot sample and then distributed to a larger sample. The methodology used and the results of the analysis are be discussed in this

paper. The conclusion integrates the various papers presented and initiates a general discussion.

[Note: To protect the identity of all interview participants, all designations used to describe or refer to persons involved in the qualitative study are pseudonyms.]

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CHAPTER 2:

TOWARD A NEW PERSPECTIVE ON LEARNING DISABILITIES

As special education has become more inclusive in perspective, terminology, and treatment (Bryan, 2003), the field of learning disabilities has moved from a problem-oriented approach to an empowering strengths model (Margalit, 2003). Although there are wide variations in the adaptation of individuals with learning disabilities to their environment, the presence of a learning disability constitutes a risk factor (Morrison & Cosden, 1997). However, protective factors within the individual, and within the familial and social environment, may ameliorate some of the problems associated with learning disabilities (Morrison & Cosden, 1997) and support positive outcomes. In this paper, it will be argued that the risk/resilience model offers an optimal way to clarify and make sense of the complexity of the interactions between individuals with learning disabilities and their environment. First, what constitutes a learning disability, and the paradigm shift that has taken place in the field of learning disabilities will be discussed. Second, the models that link risk and resilience will be examined, followed by a brief survey of research on resilience. Lastly, the resilience framework will be applied to students with learning disabilities.

What Are Learning Disabilities?

The most accepted definition of learning disability (LD) is the one proposed by the National Joint Committee on Learning Disabilities (NJCLD, 1997) in the United States, which states that the term "*learning disability*" is

> A general term that refers to a heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning, or mathematical abilities. These disorders are intrinsic to the individual, presumed to be due to central nervous system dysfunction, and may occur across the life span. Problems in self-regulatory behaviours, social perception, and social interaction may exist with learning disabilities but do not by themselves constitute a learning disability. Although learning disabilities may

> occur concomitantly with other handicapping conditions (for example, sensory impairment, mental retardation, serious emotional disturbance) or with extrinsic influences (such as cultural differences, insufficient or inappropriate instruction), they are not the result of those conditions or influences (NJCLD, 1997, p.1).

The Learning Disabilities Association of Canada's (2002) current definition of LD, which is widely accepted in Canada, is very similar. However, it gives greater prominence to impairment in processes.

> Learning Disabilities result from impairments in one or more processes related to perceiving, thinking, remembering, or learning. These include, but are not limited to: language processing; phonological processing; visual spatial processing; processing speed; memory and attention; and executive functions (e.g. planning and decision-making) (The Learning Disabilities Association of Canada, 2002).

The emphasis in this definition is on the early identification, assessment, and appropriate interventions for each individual's learning disability subtype, involving home, school, community, and workplace settings are necessary (The Learning Disabilities Association of Canada).

The inherent heterogeneity of the population with learning disabilities and the sweeping definitions of learning disabilities proposed by The National Joint Committee on Learning Disabilities (NJCLD) and The Learning Disabilities Association of Canada have made it difficult to create a standardized identification procedure. The Research Committee for the Council for Learning Disabilities (CLD) has published guidelines for researchers regarding the minimum information that should be reported in describing research participants to ensure the validity of research; however, many research articles still do not meet these criteria (Rosenberg et al., 1993). The lack of a standardized identification procedure among researchers who study this population makes it difficult to meaningfully compare results and interpret findings.

In the educational environment, a learning disability is diagnosed when a student's achievement on standardized tests in reading, mathematics, or written

expression is substantially below that which would be expected for that student's age, schooling, and level of intelligence (American Psychiatric Association, 2000). Therefore, students who are learning disabled frequently exhibit a discrepancy between academic achievement and intellectual ability. They may have difficulties receiving and processing information as well as deficits in metacognitive knowledge and self-monitoring (Palladino, Poli, Masi, & Marheschi, 2000). These difficulties can result in delays in reading, an inability to write down ideas, sequence thoughts (Yewchuk, Delaney, Cunningham, & Pool, 1992), or organize strategic behaviour (Borkowski, 1992; Borkowski, Carr, Rellinger, & Pressley, 1990).

Students with learning disabilities may also experience social or emotional repercussions (Wong & Donahue, 2002) as a result of their inability to process information correctly (Yewchuk et al., 1992). Significant social skills deficits in communication may result in less secure peer relationships that are fraught with avoidance, anxiety (Rogers & Saklofski, 1985), loneliness (Margalit & AlYagon, 2002; Margalit, Tur-Kaspa, & Most, 1999), and lower social acceptance (Wiener & Tardif, 2004). Functioning in peer relationships is frequently used as a criterion for judging competence by parents, teachers, society, and self. These judgments have consequences for an individual's life and well being, educational placement, popularity with or victimization by peers, and feelings of happiness or unhappiness (Masten, 2005a).

Individuals with LD frequently do not experience life events in a customary chronological order; rather, they experience them off-time early or off-time late (Spekman, Goldberg, et al., 1993). This inability to complete salient developmental tasks at the appropriate time may have negative consequences on self-perception and judgments of others that may lead to increased internalizing and externalizing symptoms

(Masten et al., 2005b) Therefore, internal and external factors may coalesce with a learning disability, placing students with this exceptionality at risk for academic failure and for internal disorders such as depression (Bender, Rosenkrans, & Crane, 1999) and anxiety (Dollinger, Horn, & Boarini, 1988). Students with learning disabilities may become entangled in a vicious cycle whereby academic failure and negative affective characteristics are mutually reinforcing (Rogers & Saklofske, 1985), resulting in disengagement and alienation from the school environment (Freeman, Stoch, Chan, & Hutchinson, 2004).

A Paradigm Shift in the Field of Learning Disabilities

There has been a paradigm shift in the field of learning disabilities from a problem-oriented approach underlying the deficit model to an empowering and nurturing strengths model (Margalit, 2003). The deficit model focused on factors internal to the individual. Bryan (2003) states that the dominance of the deficit model is due to the fact that learning disabilities are defined as an information processing deficit, that is, a problem inherent in the child. Given that the deficit model dominates reading research and that the majority of children with learning disabilities have reading problems, it is not surprising that the deficit model dominates learning disabilities research (Bryan, 2003). The deficit model is appropriate when studying factors that are internal to the individual or those factors outlined in the definition of learning disabilities. However, as special education has evolved to become more inclusive in perspective, terminology, and treatment, there has been a move from a deficit model to an empowerment model or from a focus on the individual to an examination of the diverse internal and external variables that interrelate in people's lives (Bryan, 2003).

It has been hypothesized that it is a combination of aspects of the child's personal, familial, and social environment that determines whether the child with learning

disabilities will have successful or unsuccessful social, academic, and vocational outcomes (Cosden, Brown, & Elliott, 2002). The risk/resilience model is valuable for clarifying and making sense of the complexity of the interaction between the individual with learning disabilities and his/her environment. According to Donahue and Pearl (2003), the underlying principles of the risk and resilience framework reverberate with the most strongly held convictions of special educators. Donahue and Pearl outlined six conclusions:

1. Single factor models of developmental outcomes are insufficient to advance theory or application.
2. Individual differences must be taken into account in any viable theory.
3. Children with multiple adverse influences may still achieve positive outcomes, if given the right combination of protective factors.
4. Protective factors emerge from a wide network-within the individual, the family, the school, the community, and the culture.
5. There is a focus on a developmental and longitudinal perspective, which presupposes that even children whose early prognosis looks poor may have a positive outcome.
6. No particular theory is privileged in conceptualization of child development, therefore enabling a variety of perspectives to be hypothesized about risk and protective factors and their interactions.

The risk and resilience framework illustrates that solely examining factors intrinsic to the individual with learning disabilities paints an incomplete picture and thus leads to an incomplete understanding (Wiener, 2002) of the complexity of the interaction between those factors that threaten normal development and those factors that lead to positive outcomes. The remaining sections will examine the models that link risk and

resilience, research on resilience, and the application of the resilience perspective to students with learning disabilities.

Models That Link Risk and Resilience

Several researchers have studied risk factors, (biological, psychological, cognitive, or environmental) that hinder normal development (Dole, 2000) or that are statistically associated with a higher probability of negative life outcomes (Masten, 2001). Individuals at risk of school failure (Barga, 1996), criminal behaviour (Todis, Bullis, Waintrup, Schultz, & D'Ambrosio, 2001), and mental health problems (Garmezy, Masten, & Tellegen, 1984), as well as those dealing with the adverse effects of poverty have been studied (e. g., Egeland, Carlson, & Sroufe, 1993; Garmezy et al., 1984, 1991; Kim-Cohen, Moffitt, Caspi, & Taylor, 2004). However, researchers have found that even under the most adverse circumstances, there are protective factors that buffer the individual's response to adversity, resulting in positive outcomes. Resilience can therefore be delineated as "successfully coping with or overcoming risk and adversity, or the development of competence in the face of severe stress and hardship" (Doll & Lyon, 1998, Introduction).

To guide investigation in the area of resilience, researchers have proposed various models of resilience to explain and guide their inquiry. Garmezy et al. (1984) have advanced three models of resilience: the compensatory model, the challenge model, and the protective factor model.

The Garmezy, Masten, and Tellegen Models

The compensatory model. In this model, a compensatory factor neutralizes exposure to risk. Compensatory variables do not interact with the risk factor but rather have a direct and independent influence on the outcome. Therefore, both the risk and compensatory factor contribute together in the prediction of the outcome (Zimmerman &

Arunkumr, 1994). The impact of risk factors can be counteracted or compensated by protective factors.

The challenge model. In the challenge model, moderate levels of stressors (i.e., risk factors) are treated as enhancers of adaptability (Zimmerman & Arunkumr, 1994) or as inoculators (Rutter, 1987) provided that the degree of risk is not excessive. This allows for a curvilinear relation between risk factors and adaptation (Garmezy et al., 1984). As the individual meets and overcomes each stressor, successful adaptation is strengthened. However, if efforts by the individual to meet any given challenge are not successful, the individual may become increasingly vulnerable to risk (Zimmerman & Arunkumr).

The protective factor model. In this model, the protective factor interacts with a risk factor to reduce the probability of a negative outcome. The protective factor can achieve this function in two ways: (a) by moderating the effect of exposure to risk, or (b) by modifying the response to a risk factor (Zimmerman & Arunkumr, 1994). Therefore a protective factor may have a direct effect on an outcome; however the effect of the protective factor is strongest in the presence of a risk. Luthar and Zigler (1991) present this model as a protection versus vulnerability model, whereas Garmezy et al. (1984) present it as an immunity versus vulnerability model, implying that it is the interaction between risk factors and personal characteristics that predicts outcome.

Two mechanisms by which protective factors influence outcome have been proposed: (a) risk/protective or (b) protective/protective (Brook, Brook, Gordon, & Whiteman, 1990). In the first mechanism, risk/protective, a protective variable mitigates or attenuates the negative effects of a risk factor. For example, Brook et al. found in their study of adolescent vulnerability that the relationship between peer drug use and self-drug use varied as to adherence to conventionality. Therefore, the risk factor (i.e., drug

use) was mitigated or attenuated by the existence of the protective factor (i.e., conventionality in the adolescent).

In the second mechanism, protective/protective, the presence of one protective factor enhances another protective factor so that the effect is greater than the sum of the protective factors if they were considered singly (Brook et al., 1990). For example, a harmonious and organized school environment interacts with peer use of alcohol, cigarettes, and marijuana to decrease an adolescent's use of all three substances (Zimmerman & Arunkumar, 1994). Therefore, in both these two mechanisms, there is an interaction between the protective factor and either the risk factor, or another protective factor.

Summary. The protective factor model differs from the compensatory and challenge models in that it operates indirectly to influence outcome. The compensatory model examines the additive and direct effect of factors, and the challenge model enhances resilience through the recurring exposure to stress despite the influence of any other factors (Zimerman & Arunkumar, 1994). Garmezy et al. (1984) write that the challenge model and the protective factor model may be referred to as "two different types of coping models" (p. 103). Both models illustrate adaptation that is instigated by risk itself. However, the compensatory, challenge, and protective factor models are not mutually exclusive (Garmezy et al.). For an individual, positive factors may compensate for some risks while also interacting with others to reduce negative outcomes, and some risk factors rather than being detrimental may prove manageable and bestow immunity, making future exposure to risk less debilitating. Utilizing the three models, Masten (1994) has distinguished three ways of illustrating resilience: (a) at risk individuals who show better-than-expected outcomes, (b) individuals who display positive adaptation that

is maintained despite the occurrence of stressful experiences, and (c) individuals who demonstrate good recovery from trauma.

Other more elaborate models have also been proposed; three examples will be delineated in the next section.

Elaborate Models

An organizational-developmental model. To understand resilient adaptations within the context of the multitude of factors that influence developmental processes, an organizational-developmental model has been proposed (Egeland et al., 1993; Waters & Sroufe, 1983). Development is seen as progressing from an interaction of biological and psychosocial systems that shape the child's care-giving experience, progressing through hierarchical differentiation that incorporates earlier developmental structures into more complex ones. Succinctly, the child continuingly interacts with the surrounding environment in an ever-diversifying set of developmental tasks. The child's prior adaptation is not only brought forward but also transformed by the current experience (Roisman, Masten, Coatsworthe, & Tellegen, 2004). In this model, the concept of adaptation, in which the child draws on internal and external resources to master stage-salient tasks, is important (Wyman et al., 1999).

A metatheoretical model of resilience. Richardson (2002) proposes a metatheoretical model of resilience postulating that resilient qualities are acquired through the process of disruption and reintegration. In his resilience model, people "have the opportunity to choose consciously or unconsciously the outcomes of disruptions. Resilient reintegration refers to the reintegrative or coping process that results in growth, knowledge, self-understanding, and increased strength of resilient qualities" (Richardson, 2002, p. 310). Richardson believes that resilience is a force that resides within everyone. This force propels individuals to seek self-actualization, altruism,

wisdom, and harmony with a spiritual source of strength. Richardson's metatheory of resilience and resiliency draws together numerous theories across academic disciplines.

Model of developmental adaptation. Augmenting Richardson's (2002) ideas, Martin and Martin (2002) advanced a model of developmental adaptation, which includes distal developmental influences, proximal developmental influences, behavioural coping mediators, and developmental outcomes to aid researchers studying "potential developmental trajectories based on life histories as well as present resources that play a crucial role in successful adaptation" (Martin & Martin, 2002, p. 82).

Summary. These holistic models, while visionary in perspective, are too sweeping in their explanation to make them useful for research purposes, whereas the Garmezy et al. (1984) models due to their parsimonious quality are helpful in grounding investigative initiatives. Therefore, although the elaborate models of resilience add to the discussion on resilience, it is the protective factor model that is the most widely studied of the resilience models (Zimmerman & Arunkumar, 1994).

Research on Resilience

Research on resilience holds great promise, for if the mechanisms and processes by which it occurs could be understood, the possibility exists of fostering resilience through preventive interventions and programming. The concepts of risk and resilience are related historically and also through their respective influence on preventive programming (Doll & Lyon, 1998). Research on resilience has resulted from a paradigm shift, from looking at the risk factors that lead to psychosocial difficulties to looking at the factors that nurture positive outcomes. It is important to note that research on resilience did not emerge from a theoretical foundation, but rather through researchers identifying the phenomenological characteristics of survivors, mostly young

people, living in high-risk situations (Richardson, 2002). Studies on resilience continue to be largely empirically driven, rather than being theoretically-based (Luthar et al., 2000).

There are three iterations (Doll & Lyon, 1998) or waves (Richardson, 2002) in the study of risk and resilience. In the first iteration, systematic studies of risk factors, using a main-effect model, demonstrated that negative life experiences such as poverty or prenatal stress, were potentially implicated in negative outcomes (Spekman, Herman et al., 1993).

In the second iteration of risk studies, although risk factors continued to be examined singly or as independent variables, individual case studies documented similarities and differences in individual responses to adversity; longitudinal studies traced the pathways throughout development that resulted in psychopathology, criminality, or negative adult adjustment; and epidemiological studies identified those risk factors that predisposed certain populations to negative outcomes (Doll & Lyon, 1998). However, researchers found that, even under the most adverse circumstances, there were protective factors that serve to buffer the individual's response to adversity. Significant numbers of children raised in the most adverse circumstances developed into competent and productive adults (Garmezy, 1991; Werner & Smith, 2001).

As a result, in the third iteration, transaction models were used to incorporate the impact of multiple risk and protective factors, singly and in combination, across many domains of functioning (Doll & Lyon, 1998; Spekman, Herman et al., 1993). It is important to note that the influences of the second and third phrases of studies continue to the present day.

A number of studies were instrumental in transforming research on risk to the identification of those factors that promote resilience. These studies (a) were longitudinal in design and, therefore, prospective in origination; (b) used a multiplicative model, in

that multiple source of psychosocial risk and protective factors, and their interrelationships, were examined; and (c) were able to link longitudinal risk and resilience data to distinct adult indicators of adaptation (Doll & Lyon, 1998). Three selected examples will be described: the Kaui Longitudinal Study, the Oakland Growth Study, and the Rochester Longitudinal Study.

The Kaui Longitudinal Study

Werner and Smith's (2001) seminal study investigating developmental risk established precedent, which subsequent researchers studying risk and resilience have tried to emulate. Surprisingly, Werner and Smith's primary intent was to document, in a natural history fashion, the outcome of all pregnancies on the entire island of Kauai, and to assess the long-term consequences of risks. During this time Hawaii was undergoing a period of massive economic, cultural, and social upheaval.

A team of pediatricians, psychologists, public health workers, and social workers monitored the impact of a variety of biological and psychosocial risk factors, as well as stressful life events on the development of a multiethnic cohort of 698 children born in 1955 on the island of Kauai. The children were followed from the prenatal period through birth to ages 1, 2, 10, 18, 32, and 40. The study found that poor developmental outcome was not inevitable for children exposed to prenatal trauma, poverty, parental psychopathology, or chronic family discord. Thirty percent of the children in the study were considered high-risk because they had experienced prenatal stress, were born into chronic poverty, and lived in troubled family environments. However, one third of these children developed into competent, confident, and caring adults (Werner & Smith, 2001).

Consequently, Werner and Smith changed the focus of their study to include the phenomenon of resilience or protective factors that buffer these children from life stresses.

The Oakland Growth Study

Using archival data from the Oakland Growth Study of children born in 1920-21, Elder and his colleagues (Elder, 1974, 1999; Elder, Nguyen, & Caspi, 1985) studied the implications of drastic socio-economic change on the family and intergenerational relations. The unintentional consequences of a restructuring in division of labour and authority pattern precipitated a change in parental child rearing behaviour with an emphasis on immediate survival requirements rather than on the anticipation of skills children may need in the future (Elder, 1974; 1999). Fathers' loss of income increased the power of mothers who now entered the labour force, reduced the level of parental control, and reduced fathers' attractiveness as a role model (Elder et al., 1985). Economic hardship adversely influenced family functioning through its direct influence on fathers' behaviour, whereas it did not affect mothers' parenting behaviour. Therefore, fathers' parenting behaviour, specifically rejecting behaviour, linked economic stress to children's social and emotional behaviour, and their risk for subsequent psychopathology or marginal adult adjustment, especially for children who had displayed signs of difficult temperament or problem behaviour before the Depression.

Using newly developed codes for parental behaviour, Elder et al. (1985) found that the rejecting behaviour of the father was most strongly linked to economic deprivation and the emotional disturbance of girls, especially to those girls who were relatively unattractive. Also, children who had "positive" characteristics or had warm relationships with affectionate and caring mothers had more positive outcomes. Accessing data from the adult years, Elder (1999) and his associates ascertained that childhood poverty of many of the adults in the study did not deter them from attaining high achievement and good health at midlife. They were able to overcome early

disadvantages through military service that offered opportunities to acquire an education and a job, or through nurturing families.

The Rochester Longitudinal Study

The original purpose of this study (Seifer, Sameroff, Baldwin, & Baldwin, 1992) was to examine the transmission of serious mental illness across generations by comparing the socio-emotional status of children whose mothers had significant mental disorders with those children whose mothers had no such condition. The study was extended to include the stability of intelligence from preschool to adolescence (Sameroff et al., 1993). When the children were 4 and 13, measures of intelligence were administered to both mother and child, and an evaluation was made of 10 contextual risk factors: minority group status, occupation of head of household, maternal education, family size, father absence, stressful life events, parental perspectives, maternal anxiety, maternal mental health, and interaction.

Sameroff et al. (1993) found that there was a linear relationship between IQ and the number of risk factors. There was a difference of over two standard deviations between the IQ of children with no risk factors and these with the most risk factors. It was the number of risk factors and not the kinds of risk factors that was the most important consideration in influencing IQ. They noted that whatever the capabilities of the child, the environment placed constraints on the opportunities for further development. However, Seifer et al. (1992) also reported that there are individual and family factors, such as personality dispositions, social support, and family cohesion that ameliorate the impact of multiple risk factors between ages 4 and 13.

Summary

Longitudinal studies have illustrated that risk and resilience factors are not static but rather they constitute a dynamic process that influences developmental paths. This

dynamic process is dependent on the transaction between the socio-historical context and the developing individual (Schoon & Persons, 2002). Inasmuch as individuals develop and function holistically, the many variables that influence developmental trajectories need to be studied concurrently, and their interactions indicated (Spekman, Herman et al., 1993).

A message of the universality of predictors of resilience has emerged from many diverse longitudinal studies (Werner, 2005). Werner summarized the individual attributes and sources of support in the family and community that are associated with resilience among high-risk children. These findings have been replicated in a number of large-scale longitudinal studies worldwide. Interestingly, most of these factors that contribute to resilience in high-risk children also benefit "low-risk" children. Therefore, they show a main effect rather than an interaction effect in statistical analysis (Fergusson & Horwood, 2003). Werner stated that this does not preclude the possibility that some protective factors are more age, gender, or context-specific than others. For example, in the Rochester Child Resilience Project, interaction between prosocial activities and antisocial peer associations predicted delinquency behaviours surpassing the main effect of these variables. Participating in prosocial groups lowered the risk for delinquent behaviour for children with high exposure to antisocial peers but not for children with few antisocial friends (Wyman, 2003).

The longitudinal studies reviewed above, along with other empirical research using various methodologies, have investigated children in difficult circumstances and have identified protective factors that moderate the impact of adversity on children. These findings have important implications for preventive policies and interventions. The challenge to researchers is to discover which conditions encourage resilience. Students who are learning disabled pose such a challenge. These students not only possess an

exceptionality that constitutes a risk but they may also experience common risk factors such as poverty and parental conflict.

Application of the Resilience Perspective to Students With Learning Disabilities

Implied in the paradigm shift from a deficiency model of learning disabilities to an empowering and nurturing strengths model (Richardson, 2002) is the belief that a learning disability constitutes a risk. As stated by Morrison and Cosden (1997, p.44), it is important to specify "At risk for what? " A learning disability can be described as a risk or adverse condition that increases an individual's vulnerability to distorted perceptions and interactions with the world, frequently resulting in academic and social-emotional difficulties (Yewchuk et al., 1992) that may contribute to low self-esteem and confidence. It is an adverse circumstance over which the child initially has little control (Spekman, Goldberg, et al., 1993), making the school environment itself a risk factor to the child who is learning disabled (Bender et al., 1999; Luthar & Zigler, 1991; Pianta & Walsh, 1998).

Spekman, Goldberg et al. (1993) state that individuals who are learning disabled do not experience life events in a customary chronological order; rather, they experience them off-time early or off-time late. The child who is learning disabled may experience academic failure early, increasing his/her vulnerability and laying the foundation for future patterns of coping. Conversely, the individual who is learning disabled also experiences off-time late events such as protracted periods in school, or vocational training programs, or low paying jobs that prolong dependence on family support, resulting in frustration.

Therefore, a learning disability has an impact across the life span, frequently resulting in higher school dropout rates, underemployment, and job difficulties, self-

esteem and emotional difficulties (Spekman, Goldberg et al., 1993). It can precipitate a negative chain reaction that can set an individual on a downward course. However protective factors within the individual, family, and social environment can ameliorate the negative consequences of a learning disability making positive adaptation possible. Surprisingly, given the considerable empirical research on resilience, there is a scarcity of empirical research that identifies those factors that are related to positive outcomes for individuals with learning disabilities (Margalit, 2003; Miller, 2002; Morrison & Cosden, 1997) or the impact of a learning disability on resiliency (Spekman, Goldberg, & Herman, 1992). Freeman et al., (2004) found only three empirical studies that directly examined the resilience of persons with learning disabilities.

In the two following sections, studies that have empirically investigated the risk factors and protective factors specific to individuals who are learning disabled will be discussed. The protective factor model lays the foundation for this discussion. As previously stated, in this model, the protective factor interacts with a risk factor to reduce the probability of a negative outcome. The protective factor can achieve this function in two ways: (a) by moderating the effect of exposure to risk, or (b) by modifying the response to a risk factor (Zimmerman & Arunkumr, 1994).

The first section, on risk factors, will be divided by developmental stages because individuals have various vulnerabilities that are specific to different point in development. Infants, for example, are highly vulnerable to the consequences of abandonment or mistreatment by caregivers, while being protected from experiencing the significance of major disasters by their lack of understanding, whereas adolescents may have the capabilities for adaptation in the world on their own but they are vulnerable to devastation concerning friends, faith, and school (Masten, 1997). Therefore, an individual's vulnerability changes over time and developmental levels.

This fluctuation in competence level, however, makes it difficult to identify competent individuals at any specific moment in time. Pianta and Walsh (1998) argue that resilience should not be identified at one point in time or with respect to a single outcome, rather, it is a dynamic process whereby development is the function of repeated resilient integrations (Richardson, 2002). The study of this dynamic requires longitudinal data (Morrison & Cosden, 1997). It is only when children with learning disabilities are tracked into adulthood that researchers are able to verify positive adaptation. Therefore the second section will be divided into the specific methodology that was utilized: prospective, prospective/retrospective, and retrospective.

Risk Factors

Early childhood. Tur-Kaspa (2004) investigated the difficulties in social-information processing as a risk factor for socioemotional adjustment of kindergarten children with learning disabilities. She found lower social-information processing skills in the kindergarten years before the onset of academic failure. Surprisingly, although children with learning disabilities understood what constituted a desirable action in a given social situation, they opted for a less competent solution (Tur-Kaspa, 2004).

Childhood. Studies of elementary school students have found that students with learning disabilities in comparison to students without learning disabilities appraise their close relationships as less secure. These students also reported higher levels of avoidance and anxiety in their friendships, a higher sense of loneliness, and a lower sense of coherence (Al-Yagon & Mikulineer, 2004). Wiener and Tardif (2004) affirmed that elementary school students with learning disabilities show fewer corroborated/reciprocated friends, lower quality of friendships, lower social acceptance, lower academic self-concept, poorer social skills, and higher levels of loneliness. It has been found that children with learning disabilities have significant social skills deficits,

which are manifested in peer rejection and social isolation (Kavale & Forness, 1996). If children with learning disabilities have had one or more reciprocal rejection in addition to their academic failure, they felt lonelier and less coherent than their peers without learning disabilities (Margalit et al., 1999). Rejected social status classification has been relatively stable throughout development; therefore, the role of reciprocal rejections as risk factors for later socio-emotional problems needs to be considered. Negative socialization in childhood may contribute to adjustment problems, such as dropping out of high school and juvenile delinquency (Margalit et al.).

Due to their inability to read social cues from peers and teachers, students with disabilities may be unaware that they are not receiving the social and personal support necessary for school success. An inflated self-concept and inflated sense of peer acceptance may act as a protective mechanism helping them to cope with their academic difficulties (Robertson, Harding & Morrison, 1998). Rogers and Saklofske (1985) found that the affective characteristics of children who were learning disabled were significantly more negative than those of normal achievers, possibly due to the accumulated failure they experience. These children generally have had lower self-concepts and more external locus of control beliefs than normal achievers.

The behavioural characteristics of students with learning disabilities, specifically less task-orientation and inattention, have been found to predict decline in the academic achievement over time, regardless of SES. These less task-oriented students completed less academic work and acquired less general knowledge. Therefore, they benefited less from reading, instructional opportunities, and classroom experiences in proportion to the time and effort they expended (McKinney, Osborne, & Schulte, 1993). The accumulated failure experiences may lead these students to judge themselves as

academically incompetent. Consequently, they may aim for and expect lower levels of success than their peers who are more confident (Leondari, 1993).

Adolescence. The stress that students with learning disabilities experience in the school environment may be manifested in internal disorders such as anxiety (Dollinger et al., 1988) and depression (Bender et al., 1999). Dollinger et al. found that sleep problems in adolescents with learning disabilities were related to their worries about their intellectual and academic adequacy. Bender et al. found that adolescents with learning disabilities experienced higher rates of depression than students without learning disabilities. Students with learning disabilities demonstrated certain personality traits such as deficits in cognitive coping skills, deficits in problem-solving ability, and impulsivity that may predispose them to attempt and/or complete suicide. Not only are adolescents with learning disabilities more vulnerable to internal disorders, but they also lack the appropriate social skills to mobilize ample peer support for their emotional distress (Bender et al., 1999; Robertson et al., 1998).

Rojewski (1996) found that adolescents with learning disabilities are three times less likely to aspire to postsecondary education and possessed significantly lower occupational aspirations. They also exhibit high rates of secondary school incompletion. The dropout rate for adolescents with learning disabilities is nearly 40% or approximately 1.5 times the average (American Psychiatric Association, 2000; Barga, 1996). Incompletion of secondary school impedes the ability to gain access to educational programs that facilitate career-oriented training offering vocational opportunities (Freeman et al., 2004). Furthermore, students with learning disabilities who do complete secondary school are significantly less likely to attend and graduate from any form of postsecondary school during the first 10 years following high school graduation (Murray, Goldstein, Nourse, & Edgar, 2000). Should they decide to pursue postsecondary

education, students with learning disabilities are more likely to attend vocational programs and community colleges rather than four-year colleges and universities (Hall, Spruill, & Webster, 2002; Murray et al., 2000).

College students. Although greater numbers of students with learning disabilities are attending college (Hartman-Hall & Haaga, 2002), concern remains about their ability to complete a degree (Vogel & Adelman, 1992). Low academic standing in high school can forecast low academic achievement in college. Vogel and Adelman suggest that high school preparation and performance should be weighed significantly more heavily than admission test scores. However, Wilczenski and Gillespie-Silver (1992) found that a number of students with learning disabilities with significantly higher verbal test scores on the Scholastic Aptitude test were able to maintain high academic standing in university, contrary to expectations. Therefore, they postulated that although high school rank and SAT verbal scores are useful in predicting the university academic performance of secondary school students seeking admission to university, discrepant academic indicators, low high school performance, and high verbal aptitude test scores also need to be considered for students with learning disabilities.

Students with learning disabilities have experienced barriers such as labelling, stigmatization, and gatekeeping (Barga, 1996) throughout their academic careers. Barga found that college students use both positive coping strategies such as relying on benefactors, implementing self-improvement techniques, and utilizing management strategies, and negative coping strategies such as hiding their disabilities from others in order to manage their disabilities. College students with disabilities have also managed their disabilities through sheer determination and perseverance and through access to effective support systems (Greenbaum, Grahan, & Scales, 1995). Additional coping strategies nominated by college students with LD were time management, personal

learning strategies that are related to specific academic areas, and transferring to university only after completing required course material in deficit areas in community colleges that provide extensive support services for students with learning disabilities (Cowen, 1988).

Surprisingly, while in college, students with learning disabilities are not accessing the formal support services or accommodations that are available to them (Vogel & Adelman, 1992), because they are unaware that such help exists (Cowen, 2001) or because they receive a negative response to their request for assistance from a professor (Greenbaum, et al., 1995; Hartman-Hall & Haaga, 2002). Students with learning disabilities who perceive their exceptionality as global, stigmatizing, and non-modifiable are even less inclined to seek help when faced with a negative response from their professors (Hartman-Hall & Haaga,2002). This finding is disconcerting given that a strong relationship with an academic advisor who understands and believes in the ability of the student with learning disabilities to succeed is one of the most important components of the services provided to students with exceptionalities (Vogel & Adelman, 1992; Vogel, Hruby, & Adelman, 1993).

Protective Factors

Research in resilience attempts to study positive adaptation by establishing links between circumstances and outcomes by means of prospective and retrospective examination. Prospective studies, in which a cohort of individuals is followed, and the connections between circumstances and outcomes are evaluated, permit researchers to test hypotheses, whereas in retrospective research individuals who have experienced positive or negative outcomes are studied to determine what might have influenced their status. Retrospective studies may identify circumstances that discriminate between successful and unsuccessful groups and assist researchers to generate hypotheses.

Prospective studies. Among the total cohort of 698 children studied by Werner and Smith (2001) on the island of Kauai, 13 boys and 9 girls were diagnosed as having learning disabilities. They also had a higher proportion of moderate-severe perinatal complications than matched control cases. Between the ages of 10-18, four-fifths of the youths had some contact with community agencies. At age 17/18 the adolescents had limited participation in school activities, were unrealistic in their educational and vocational plans beyond high school, and had only a "fair" to "poor" social and family life (Werner, 1993). In addition they scored lower than controls on measures of self-assurance and interpersonal adequacy, socialization and responsibility, achievement potential, and intellectual efficiency. They also exhibited an external locus of control (Werner, 2001). Werner (1993) noted that, had she concluded her investigation of individuals with learning disabilities at this point, her study would have revealed a fairly negative prognosis.

At age 32, three out of four of these individuals with learning disabilities were judged to have made a successful adaptation, were satisfied with their job, marriage, children and social life, and were free of psychiatric problems. Werner and Smith (2001) stated that five clusters of protective factors appeared in the interviews and records of these resilient individuals:

1. The individual had temperamental characteristics that helped him/her elicit positive responses from a variety of caring individuals such as parents, teachers, friends, life-partners, and coworkers.
2. The individual had special skills and special talents, and the motivation to use whatever abilities she/he had. The individual had realistic education and vocational plans as an adult, and as a child and adolescent had regular responsibilities.

3. The caregiving style of the parents, especially of the mother, was important. Self-esteem was nurtured, and there was a sense of security in the home, because of well-defined rules and structure.
4. Supportive adults or "surrogate" parents, such as teachers, members of the extended family, youth leaders, and members of church groups, who fostered trust and provided role models, were significant.
5. The opening of opportunities at major life transitions was instrumental in successful adult adaptation (Werner, 1993, 1995; Werner & Smith, 2001).

Prospective/retrospective study. An ongoing longitudinal study, conducted by the Frostig Centre in Pasadena, California, has traced the lives of individuals, who as children, had been identified as having learning disabilities and had attended the Centre between 1968 and 1975 (Goldberg, Higgins, et al., 2003; Raskind et al., 1999; Spekman, Goldberg, et al., 1992). The focus of the 10-year follow up was to investigate whether certain factors in the past and current experiences of young adults with learning disabilities could discriminate between successful and unsuccessful individuals (Spekman, Goldberg, et al., 1996) Success was defined as educational achievement, employment, social and familial relationships, and life satisfaction. Both quantitative and qualitative analysis were used.

Spekman, Goldberg, et al., (1992) found three themes that were common to all participants: a learning disability was an ongoing condition; individuals with learning disabilities also experienced other risk factors; and they were late-bloomers. However, the successful group was differentiated by "(a) realistic adaptation to life events, including greater self-awareness/self-acceptance of the learning disability, pro-activity, perseverance, and emotional stability, (b) goal setting, and (c) presence and use of effective support systems" (Raskind, Goldberg, et al., 1999, p. 36).

The 20-year follow up study found that these resilient attributes were relatively stable across time and were more powerful predictors of success than other variables, such as IQ, academic achievement, life stressors, age, gender, SES, and ethnicity (Raskind et al., 1999). In addition, the qualitative data revealed that the successful individuals in their 30s had also developed effective coping strategies to deal with emotionally stressful situations (Goldberg et al., 2003).

Retrospective study. Miller's (1997, 1998, 2002) qualitative study of 10 university students with learning disabilities investigated elements that lead to their resilience in university. Six students designated as being resilient because they had obtained grades averages of at least B+ in their college major were compared to four students with learning disabilities who did not meet this criterion and therefore were classified as non-resilient. Through interviews, participants were asked to provide information about their school careers, family life, socialization, and occupational experiences. The themes that were evident from the interviews with the resilient students included success in a group or team experience, particular areas of strength, an encouraging teacher, a special friend, self-determination, an acknowledgement of the learning disability, and a distinctive turning point.

In order to investigate how individuals with learning disabilities have become highly successful in their respective fields, Reiff et al. (1997) conducted ethnographic retrospective interviews with successful adults with learning disabilities. To differentiate a high degree of success, 46 highly successful adults were compared to 21 moderately successful adults. Success was operationalized in terms of income, education, job satisfaction, job classification, and eminence in one's field. The behaviours characteristic of the key themes that distinguished success were discussed by all participants;

however, the highly successful adults with learning disabilities were more exceptional in each of the derived themes than their moderately successful counterparts.

The key factor underlying the high degree of employment success attained by these adults with leaning disabilities was their quest to gain control of their lives. This quest for control involved two sets of categories: internal decisions and external manifestations. The internal decisions included a desire to succeed, being goal oriented, and the ability to reframe the learning disability. The external manifestations all pertained to adaptability and included persistence, finding a goodness of fit with the environment, the ability to enhance performance by developing creative ways to accomplish tasks, and the ability to create and utilize support networks (Gerber & Ginsberg, 1990; Reiff et al., 1997). Reiff et al. stated that these themes were interrelated; therefore, it was possible that they may have a cumulative effect on success.

Conclusion

Clearly, although there are wide variations in the adaptation of individuals with learning disabilities to their environment, the presence of a learning disability constitutes a risk factor (Morrison & Cosden, 1997). The individuals with LD frequently do not experience life events in a customary chronological order; rather, they experience them off-time early or off-time late (Spekman, Goldberg, et al., 1993). A learning disability can precipitate a negative chain reaction resulting in higher school dropout rates, underemployment and job difficulties, and self-esteem and emotional difficulties (Spekman, Goldberg, et al., 1993). However, it is simplistic to believe that one factor such as a learning disability is the causal element in the probability of a negative outcome; it is rather the increased opportunity for the effect and the interaction of numerous risk factors that may follow as a result of the learning disability that can multiply risk exponentially. However, the same can also be said of protective factors.

The effect of protective factors and the interaction of numerous protective factors that mitigate adversity at any one point in time make it more likely that other protective mechanisms will interject at a later period of time (Werner, 2005), thereby righting the trajectories that could otherwise go wrong.

It is the protective factors within the individual, and the familial and social environment that may ameliorate some of the problems associated with learning disabilities (Morrison & Cosden, 1997) and support positive outcomes. The risk/resilience framework offers an optimal way to clarify and makes sense of the complexity of the interactions between individuals with learning disabilities and their environment, especially as the field of learning disabilities has moved from a problem-oriented approach to an empowering strengths model (Margalit, 2003).

Research on resilience holds great promise because of its influence on preventive interventions and programming (Doll & Lyon, 1988). Surprisingly, given the considerable empirical research on resilience, there are still few studies that investigate the resilience of individuals with learning disabilities (Margalit, 2003; Miller, 2002; Morrison & Cosden, 1997). School achievement is decidedly important in today's exceedingly literary and numerical society. The completion of some form of postsecondary schooling contributes to success in the workplace. Most of the highly and moderately successful people with learning disabilities identified by Gerber et al. (1992, 1997) had completed some postsecondary schooling. Given that the definition of learning disabilities presupposes an individual with normal or above normal intelligence, given the appropriate interventions, postsecondary school is an attainable goal for individuals with learning disabilities. More research is needed to identify those protective factors that enhance the chances of individuals with learning disabilities attaining educational levels commensurate with their potential.

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CHAPTER 3:

ACADEMIC RESILIENCE IN STUDENTS WITH LEARNING DISABILITIES: FACTORS THAT INFLUENCE THE PURSUIT OF A UNIVERSITY EDUCATION

I go on despite all

> Of course there is also the Beckett quote …from a novel that he wrote, "I must go, I can't go on, I go on" The character in the novel is crawling at this point (or so I have been told). I think for [my friends and I] who have gone to university with LD, we are a bit like that Beckett character. I go on despite all. (Amanda)

There is a long history of research on the biological, environmental, psychological, or cognitive factors that hinder normal development (Dole, 2000) or that place individuals at a statistical risk of negative life outcomes (Masten, 2001). Individuals at risk of school failure (Barga, 1996), criminal behaviour (Todis, Bullis, Waintrup, Schultz, & D'Ambrosio, 2001), and mental health problems (Garmezy, Masten, & Tellegen, 1984), as well as those dealing with the adverse effects of poverty, have been extensively studied (e.g., Egeland, Carlson, & Sroufe, 1993; Garmezy et al., 1984, 1991; Kim-Cohen, Moffitt, Caspi, & Taylor, 2004). However, researchers have found that, even under the most adverse circumstances, there are protective factors that buffer the individual's response to adversity, resulting in positive outcomes. The study of resilience, which can be delineated as "successfully coping with or overcoming risk and adversity, or the development of competence in the face of severe stress and hardship" (Doll & Lyon, 1998, Introduction), has had as its goal the understanding of how and why adversity can sometimes lead to competence and purpose (Young-Eisendrath, 1996). The construct of resilience (Luthar, Cicchetti, & Becker, 2000) itself has never been directly measured; rather, it is inferred based on the presence of both risk and competence (Luthar & Zelazo, 2003).

In this paper, the factors that influence the decision of students with learning disabilities (LD) to purse a university education will be reported. The literature review will discuss learning disabilities as a risk factor, and look at the research on factors that contribute to positive academic outcome. This review will be followed by an explanation of the methodology used. A summary of the results and a discussion comparing the results of this research with current research in the area will conclude the paper.

Learning Disability as a Risk Factor

A learning disability can be described as a risk factor or adverse condition that increases an individual's vulnerability to distorted perceptions and interactions with the world, frequently resulting in academic difficulties and failures. A learning disability is diagnosed when a student's achievement on standardized tests in reading, mathematics, or written expression is substantially below that which would be expected for that student's age, schooling, and level of intelligence (American Psychiatric Association, 2000). Therefore, students who are learning disabled frequently exhibit a discrepancy between academic achievement and intellectual ability. Students with LD may also experience social or emotional repercussions (Wong & Donahue, 2002) as a result of their inability to process information correctly (Yewchuk et al., 1992). Significant social skills deficits in communication may result in less secure peer relationships that are fraught with avoidance, anxiety (Rogers & Saklofske, 1985), loneliness (Margalit & Al-Yagon, 2002; Margalit, Tur-Kaspa, & Most, 1999), and lower social acceptance (Wiener & Tardif, 2004).

Therefore, internal and external factors may interact with a learning disability, placing students with this exceptionality at risk for academic failure and for internal disorders such as depression (Bender, Rosenkrans, & Crane, 1999) and anxiety (Dollinger, Horn, & Boarini, 1988). Students with LD may become entangled in a vicious

cycle whereby academic failure and negative affective characteristics are mutually reinforcing (Rogers & Saklofske, 1985), resulting in disengagement and alienation from the school environment (Freeman, Stoch, Chan, & Hutchinson, 2004). Consequently, students with LD exhibit low rates of secondary school completion. The dropout rate for adolescents with LD is nearly 40% or approximately 1.5 times the average (American Psychiatric Association, 2000; Barga, 1996). Incompletion of secondary school impedes the ability to gain access to educational programs that facilitate career-oriented training offering vocational opportunities (Freeman et al., 2004). Furthermore, findings indicate that students with LD who do complete secondary school are significantly less likely to attend and graduate from any form of postsecondary school during the first 10 years following high school graduation (Murray, Goldstein, Nourse, & Edgar, 2000). There is also a dramatic difference in choices between students with and without LD should they decide to pursue postsecondary education. Students with LD who persist past secondary school are more likely to attend vocational programs and community colleges rather than four-year colleges and universities (Hall et al., 2002; Murray et al., 2000).

The completion of some form of postsecondary schooling contributes to ultimate success in the workplace. Most of the highly and moderately successful people with LD identified by Gerber, Ginsberg, and Reiff (1992) and by Reiff et al. (1997) had completed some postsecondary schooling. (The high success group was distinguished from the moderate success group based on five variables: income level, education level, prominence in one's field, job satisfaction, and job classification). The most common degree attained in the moderately successful group was the Master's degree, whereas the most common degree attained by the highly successful group was the doctorate. However, it is simplistic to believe that one single factor such as a learning disability is the causal element in the probability of a negative outcome; it is rather the increased

opportunity for the effect of multiple risk factors, and the interaction of numerous risk factors that may follow as a result of the learning disability, that can multiply risks exponentially. However, the same can also be said of protective factors. The effect of protective factors, and the interaction of numerous protective factors that moderate the effects of adversity at any one point in time, make it more likely that other protective mechanisms will interject at a later period of time (Werner, 2005) thereby righting the trajectories that could otherwise go wrong.

Research on Factors that Contribute to Positive Academic Outcome

There is a scarcity of empirical research that identifies those factors that are related to positive outcomes for individuals with LD (Margalit, 2003; Miller, 2002; Morrison & Cosden, 1997) or the impact of a learning disability on resiliency (Spekman, Goldberg, & Herman, 1993). The studies of college students with LD that are available deal predominantly with admission criteria and the academic performance of college students, as well as the factors that contributed to the success of these students while in college.

Admission Criteria and Academic Performance

Although larger numbers of students with LD are attending college (Hartman-Hall & Haaga, 2002), concern remains about their ability to complete a degree (Vogel & Adelman, 1992). Universities and colleges must struggle with the issue of deciding whether students with LD are capable of meeting the demands of higher education. Low academic standing in high school can forecast low academic achievement in college. Vogel and Adelman (1992) suggest that high school preparation and performance should be weighed significantly more heavily than admission test scores. However, Wilczenski and Gillespie-Silver (1992) found that a number of students with LD with significantly higher verbal test scores on the Scholastic Aptitude Test were able to

maintain high academic standing in university, contrary to expectations. Therefore, they postulate that although high school rank and SAT verbal scores are useful in predicting the university academic performance of secondary school students seeking admission to university, discrepant academic indicators, low high-school performance, and high verbal aptitude test scores also need to be considered for students with LD.

Factors That Enhance Success at College

Barga (1996) found that college students with LD use both positive coping strategies such as relying on benefactors, implementing self-improvement techniques, and utilizing management strategies, and negative coping strategies such as hiding their disabilities from others in order to manage their disabilities. College students with disabilities manage their disabilities through sheer determination and perseverance, and access to effective support systems, which includes teachers, family, friends, and college faculty. Having mild to moderate learning problems, above-average IQ and social economic status, self knowledge (Greenbaum, Graham, & Scales, 1995), time management, personal learning strategies that are related to specific academic areas, and transferring to university only after completing required course material in deficit areas in community colleges that provide extensive support services for students with LD (Cowen, 1988) are additional coping strategies.

College graduates with LD, in comparison to students with LD who were dismissed or who had withdrawn from college due to academic failure, were less likely to be placed in a self-contained classroom during elementary and secondary school, had completed almost twice as many English courses and were more likely to have had long-term extensive private tutoring. Also significantly more graduates entered the college as transfers (Vogel, Hruby, & Adelman, 1993). In a qualitative study of 20 graduates with LD, Skinner (2004) found these students had some knowledge of the nature of their

disability, had developed strategies such as self-advocacy skills to circumvent disability related problems, had support systems, were perseverant, and set goals for themselves. Additionally, they had knowledge of disability law, and found that receiving accommodations meant the difference between success and failure. Surprisingly, not all students with disabilities were accessing the formal support services or accommodations that were available to them (Cowen, 2001; Vogel & Adelman, 1992), because they were unaware that such help exists (Cowen, 2001) or because they received a negative response to their request for assistance from a professor (Greenbaum, et al., 1995; Hartman-Hall & Haaga, 2002).

Resilience in University Students

Two studies deal specifically with the construct of resilience and its relevance to college students. Hall et al. (2002) compared the performance of 17 college students with LD and 17 college students without disabilities on the Hall Resiliency Scale (Hall, 1998), the Nowicki-Duke Locus of Control Scale (Nowicki & Duke, 1974), the Need for Achievement Scale (Mehrabian, 1968), and a shortened version of a stress scale focusing on typical college stressors in order to examine their emotional resiliency, stress level, locus of control, and need for achievement. They found that the two groups differed significantly on stress, initiative, and need for achievement. The students without disabilities reported experiencing greater feelings of stress than their peers with disabilities, whereas the self-reported need for achievement of students with disabilities was significantly correlated with the resilience factor of initiative. Hall et al.'s key finding was that college students with disabilities seem to be very similar to their peers without disabilities in terms of affective factors; however, students who are learning disabled report a higher drive for achievement.

Miller's (1997, 2002) and Miller and Fritz's (1998) qualitative study was designed to investigate elements that lead to resilience in university students with disabilities. Six students with LD designated as being resilient because their grades averaged at least B+ in their college major were compared to four students with LD who did not meet this criterion and therefore were classified as non-resilient. Through interviews, participants in this study were asked to provide information about their school careers, family life, socialization, and occupational experiences. Miller and Fritz (1998) found that the themes that were identified from the interviews did not consistently differentiate between the two groups of students. Some of the themes were present in the non-resilient group, and no single theme was present in every individual classified as resilient. Also, Miller (1997) acknowledged that the related literature shows that these themes do not pertain only to students with LD. The themes that were evident from the interviews with the resilient students included success in a group/team experience, particular areas of strength, an encouraging teacher, a special friend, self-determination, acknowledgement of the LD, and distinctive turning points.

Due to the concerns of university administrators, studies have looked at the admission criteria used in relation to students while attending university and their relevance to the academic performance of these students while attending university. The coping strategies utilized by university students with LD to accommodate or compensate for their disabilities are also of interest, especially when considering retention and graduation rates. However, given that students with disabilities may encounter labelling, stigmatization, and gate keeping (Barga, 1996) throughout their academic careers, little is known about the factors that mediate or moderate these experiences and that motivate these students to pursue a university education.

Purpose of the Study

The objective of this study was to add to the educational community's understanding "of students at risk: students who by all rights shouldn't have succeeded, but did" (Peshkin, 1993, p. 25), while identifying the factors in their lives that influenced them to pursue a university education. For the purpose of this study, academic resilience is defined as a quality of a university student with LD who is currently completing a university degree or has completed a university degree.

Method

Using a basic interpretive qualitative design (Merriam, 2002), the present study attempted to illuminate the complex relationship between risk and coping in the lives of students with LD. This design employed stories, or richly detailed narratives of personal experiences, to asses how students who have LD connect events, thereby facilitating an understanding of the complex interaction of risk and protective elements. The causal linkage between events is frequently made clear only retrospectively, as is the significance and contribution of particular incidents (Polkinghorne, 1995). Given that research attempts to establish links between circumstances and outcomes, narratives provided a means of assessing subjective causality (Smokowski, Reynolds, & Beuczko, 1990). In the present study, the data, in the form of storied narratives, were inductively analyzed to identify the common themes (Merriam, 2002). Paradigmatic cognition, as opposed to narrative cognition (Bruner, 1985) generates useful knowledge because particular instances are classified as belonging to a specific category. In the categorization of individual and unique occurrences, diverse experiences become cognitively manageable and produce knowledge of concepts (Polinghorne, 1995). Order is brought to observation. To ensure that the findings were credible and trustworthy, the following strategies were employed: triangulation of data, member checking, rich, think

description, and identification of the researcher's perspective (Appendix A). The limitations of the study are discussed in Appendix B.

Participants

In order to develop a deep understanding of the elements that promote academic resilience, purposeful sampling was employed. The goal was to select cases that were most likely to provide an in-depth understanding of academic resilience, not to accurately represent a defined population (Gall, Gall, & Borg, 2003). Criterion sampling, which involves using cases that meet particular specifications, was used. College students from the University of Alberta who are learning disabled and who were currently enrolled at the university or who have recently finished a program of studies, and who have accessed Specialized Support and Disability Service, were personally invited by a consultant with Specialized Support and Disability Service to share their stories with the researcher. Potential participants contacted the researcher by e-mail or (at their request) were contacted by the researcher by telephone. Eleven participants were interviewed.

These participants, although self-selected, were diverse as to gender, age, and faculty of study, and total years in university. The eight students (three male and five female), who were currently pursing a university degree were predominantly in their twenties; one student was in her forties. Four of these students were in the Faculty of Arts, two were in the Faculty of Education, and two were completing a Bachelor of Science degree. They had spent a total of 3 to 7 years in the post-secondary environment. The three students, (two females and one male), who had graduated from the university, had all graduated with a Bachelor of Arts degree. These students were between 31 and 37 years of age.

Data Collection Procedures

To elicit stories or narratives of personal experiences, the interview was used as the main data collection method. One to two interviews of approximately 1 to 2 hours duration were carried out on the University of Alberta campus. All interviews were audiotaped and transcribed. Given that the form and content of a particular question was less important in eliciting stories than the general stance of the interviewer as an attentive listener and how the interviewer responded to a response (Mishler, 1986), the interviews were semi-structured and carried out in an informal conversational manner. The primary purpose of data collection was to elicit narrative stories and to elicit a metaphor that would best represent/describe the life experience.

Narratives. To elicit narratives, participants were asked to consider what significant people and events they would include should a movie be made of their life (Smokowski et al., 2000), especially what people and events were instrumental in their decisions to pursue a university education. They were offered the opportunity to draw a timeline to assist in the organization of their thinking. During the interview, open-form questions were used to probe more deeply and to obtain additional information.

Metaphors. At the conclusion of the interview, participants were asked to describe their life as a metaphor. Metaphors provided a way of talking about experience. They created a verbal representation of experience that is rich, dramatic, and three-dimensional. They contained a visual picture, frequently had a message, and had emotions tied to them. Metaphoric language can be emotionally connecting and informative (Bergman, 1985; Gordon, 1978; Patton, 1990). Creating an opportunity for participants to speak metaphorically about their life experiences allowed them the opportunity to convey their experience of the world in a different representation, while allowing the interviewer a different perspective.

Data Analysis

All audiotaped interviews were transcribed. Then, using what Merriam (1998) referred to as the second level of analysis, categories or themes that capture a recurring pattern were constructed. During the multiple readings of the transcripts, notes were made in the margins pertaining to units of data or bits of information that were interesting, potentially relevant, or important in answering the research question. The notes provided a list of possible categories by highlighting recurring regularities in the transcripts. Margin notes, incidents portrayed across interviews, respondents' remarks, and the list of possible categories were continuously compared to discriminate more clearly the criteria being used to allocate data to one category or another. If a majority of students provided comments that were consistent with a specific category, it was considered a common theme. Once themes were firmly identified, the transcripts were searched for more and better units of relevant units of information. The metaphors were analyzed separately following a similar procedure.

Results

Relying substantially on the actual language of the participants, the results obtained in this study will be examined in this section. In order to ultimately demonstrate positive adaptation, the evidence of the presence of risk will first be demonstrated (Masten, 1994). Secondly, the seven themes that were found to influence the pursuit of a university education will be discussed and integrated with current research on resilience. Lastly, the metaphors and the importance of metaphorical language will be discussed.

Evidence of the Presence of Risk

The students in this study succeeded despite the presence of a major risk factor, a learning disability. The participants were aware of the adversities they experienced as

a result of their LD. One participant succinctly summarized her early experiences with this statement, "It's like my childhood was sucked out of me and I had to grow up really, really fast" (Lyn). Another participant cautioned the interviewer, "It is important that when you are doing your thesis that you think about the not so nice experiences as well as the good experiences. I am thinking of the depression, abuse, and et cetera." (Janet). Therefore, not only did these students possess an exceptionality that constitutes a risk but they may have also experienced other risk factors such as poverty, parental conflict, and abuse. "My family comes from poverty, so I wanted to do better than my family" (Jennifer).

The participants experienced both academic and social/emotional problems. Academic problems lead to difficulties in understanding and completing schoolwork, resulting in poor self-esteem, anxiety, depression, frustration, and shame. Numerous statements made by the participants illustrated the psychological assault they experienced as a result of their learning difficulties.

> I was having problems with my phonics, and putting up my hand, and asking for help, and she (the teacher) got frustrated with me and started hitting my head. That was the beginning of the shame of not being smart....I have this legacy, which I still deal with today, of thinking that I am dumb. (Jason)
>
> So all the world around me made me think that I was just not good enough or that I was second rate. It has issues with your self-esteem and it impacts a person quite a bit. (Janet)
>
> I was diagnosed with a LD. And many of the teachers looked at me as the quote/unquote 'stupid kid' in the class. And a lot of the administration at that time thought I would not go beyond a Grade 8 education. (Anthony)
>
> I had problems sleeping and problems with teachers too because they didn't understand why I couldn't understand stuff.... I had one of my science teachers – she called me stupid in front of the whole class .... Throughout my life I always heard that I would never amount to anything. (Lyn)

The low educational expectation of others can have long-term effects. In one example, school personnel, in a parent teacher interview, told a student, "that in order to

be [a professional] I would have to go to university and they told me that there was no way I would ever be able to go to university, ever"...(Anne). This student now believes in retrospect that,

> What should have been told to me was that if this is the road you want to go on, this is going to be difficult, but this is what you are going to need to compete. They should have asked me if it was worth it. I don't believe that there isn't anything a person can't do, if you really want to, you'll find a way. For them to do that as teachers was wrong. (Anne)

Learning disabilities, which predispose students to difficulty with language, attention, and information processing, made the interpreting of social cues problematic.

> My perception with language caused me problems socially as well...I didn't develop some of the skills that I should have so I didn't know how to apply myself with things like problem solving and to this day I still have problems with it. That combines into social skills. I would help my friends but instead of helping I would cause more problems. I truly meant well but they didn't interpret it that way and then I would get frustrated and they would be mad and I would lose friends over that and then I would get isolated. (Lyn)

As the above example demonstrated, this difficulty in interpreting social signals may both interfere with and limit the opportunity students have for social interaction, which, in turn, may lead to isolation and lack of opportunity to practice and receive validation for their social skills. Participants spoke with sadness of the isolation they experienced.

> Going back to grade three. Like, that's when my social skills were probably the worst. 'Cuz students saw me as 'the weird kid,' the kid who just got into trouble pretty much. And I mean, I remember I'd be going out for recess or lunch recess and spinning on a bike rack by myself – just pacing back and forth, doing nothing. Or I'd play in the sandbox, or something – alone.... Like I was almost seen as an outcast at the school. (Anthony)

In some instances the social isolation may be a direct result of the difficulty the student was experiencing academically.

> What probably didn't help my friend situation – was that, you know what, you have to stay in for lunch – and finish your math. Well, if I'm here by myself, I'm not learning social skills....(Amanda)

Several participants were victimized or teased by other students because they were perceived as "slow and not learning the same thing" (Anne). They felt other students saw them as "weird" (Amanda) or different. "I think because I was always different that those are the kids that stand out" (Anne). In some instances, this non-conformity may have put them at greater risk of being victimized. Four participants in this study were either bullied or abused, and two of these four participants were both bullied and abused. One of these experiences contains an interesting twist in that the student who victimized apologized years later.

> There was a kid that decided he was going to be my bully.... [The bully] called me [years later] ... he was tortured by the way he acted and treated me and wanted to apologize.... I think the reason that he picked me to bully was because he saw my weaknesses. He told me that I am a smart person and I thought it was ironic because he made me feel stupid. (Anne)

Therefore, students with LD may become entangled in vicious cycles in which their learning difficulties and social difficulties are mutually reinforcing. The social difficulties that result from the LD may have long-term implications.

> So – learning social skills – it was absolutely frustrating – to get to grade 11 [and] have people say 'why aren't you normal?' I'm not normal because you guys haven't treated me like I've been normal for the last ten years. (Amanda)

Factors That Were Influential in the Pursuit of a University Education

The study participants' adaptation was more successful than would be expected given the adversities they faced as a result of their learning disability. Through narratives the students in this study revealed seven factors that contributed to their pursing a university education. They also conveyed their experience of the world metaphorically. The themes fall into two broad categories: personal and situational. The personal

themes were determination, working harder, helpfulness, and positive perceptions. The situational themes were supporters, diverse paths to university, and accommodations at university.

Theme 1: Determination

The participants demonstrated determination in their pursuit of a university education. This determination appeared to be ignited through four trajectories: determination as a personality quality, the desire to prove others wrong, a belief in their abilities, and having a goal.

Determination as a personal quality. Participants articulated their determination as a drive to succeed, describing themselves as being "driven" (Janet) "very resourceful" (Christopher), and "just the way I have always been (Rose)." "If I need something done, I'll find a way of getting it done (Rose)." This determination permitted no obstacles,

> I should tell you that I never thought I couldn't do it. It just never hit me. I never saw it as a possibility. If an obstacle came my way I would use my back up plan. I thought if I failed my diplomas than I would go to Y College. If I discovered that I didn't have good enough grades in X College I would take another course. I was going to do whatever it took. (Jennifer)

This propulsion to prevail at times was identified very early.

> I wanted a bike....my own. So I went and shovelled sidewalks and driveways, and porches...up and down my street. I baby-sat people's pets, I baby-sat their houses. I may have been eight at that point.... If I wanted something I was determined to get it. That drive is still in me. (Rose)

At other times, this drive was only realized while at university.

> So the skills I learned there (martial arts),... it's sort of a mind set. It's sort of a discipline. So taking those skills, when I decided to go back to university, taking the philosophy of finding a way...it's a driving force. (Margaret)

This compulsion to succeed could be driven by either a desire for scholarship, or a desire for overcoming a challenge.

> I had the desire for knowledge…This came from me, it is who I am. It was just me, it was a part of my personality, and I was always curious and interested in knowledge. (Jeffrey)

> I think there are so many things that I shouldn't have been able to do… that I went through and got through. Anything that has ever been a challenge, I've always done…. I think because I have a drive to see things through. (Anne)

However not all participants were able to articulate where this sense of purpose originated. "I don't know that is just the way I have always been" (Rose). This resoluteness is summarized in this statement, "I'm determined to do something. Like if I fall down, I get back up again…. I have to be successful in whatever success is to me. I have to strive for that success" (Anthony).

Proving others wrong. Additionally, participants spoke of the "drive to succeed [coming] out of largely negative experiences" (Janet) or out of the desire to demonstrate the evaluations of others as incorrect. "I wanted this degree as proof to show that I was not dumb" (Jason) or "to prove that I could do what every normal person could do" (Anne).

In order to succeed, participants needed to circumvent the negative messages they received.

> The teacher wanted to put me in the lower levels for high school. And I argued….And in grade 10 they gave me a shot. They were definitely hesitant upon giving me that chance …I did work hard ….I proved those teachers wrong because a lot of them thought there's no way he'll make it.' (Anthony)

At times, the harmful message took many years to circumvent.

> There was a parent teacher interview….they said that in order to be X I would have to go to university. They said that I needed to rethink my goals…Because I was told [this] I completely forgot that that is what I wanted to do…When I got to grade 12 I was at a loss because in my head I thought I couldn't go to university

> ...because of what my teachers and counsellors told me that I couldn't....I accepted what they had said. (Anne)

This desire to prove others wrong led several participants to strive toward independence. One participant "wanted to prove to everybody that I could be independent and do it myself" (Rose). Other students wanted to demonstrate that a LD could not exclude them for academic success, as in this example: "I wanted to prove to all those people who thought LD students couldn't take it at University. Couldn't cut it – that I could do it. And I've made it this far. I've made it to the third year" (Anthony).

Participants did not always gravitate toward their areas of strength but rather they took up the challenge of proving that they were capable of succeeding in those areas that they or others perceived as their weaknesses.

> I always felt that going into something that was my strength was like avoiding something, instead of addressing it head on and overcoming it and noticing it. I didn't want to be trapped and that is why I ended up where I did. This was something that I taught myself to do and I can take all the credit for it. I wanted to prove that I could do what every normal person could do. (Anne)

Belief in abilities. Surprisingly, given the negative validation these students received they were able to maintain a belief in their abilities. In spite of what others believed, one student "always felt inside that I was smarter than people gave me credit for" (Janet). Another realized "I can do better than this if I just tried. So I always tried from there on" (Jennifer). Another acknowledged the learning disability but did not see it as deterrent to making a contribution. "I do have a learning disability, but it can't hold me back from incorporating myself into the real world. I sure know there will be difficulties, but I can never let that completely hold me back" (Anthony).

Even when told, "I'm never going to become anything," one student maintained a conviction in her ability to live a fulfilling life, stating "I didn't know how I was going to do it, but I knew I had ...hopes and I had dreams and I knew I wanted to do something with

my life" (Lyn). In another case, it was the ability to evade physical illness that gave this student the belief in her ability to circumvent a learning disability,

> When I was young my asthma would get me very sick. I've had it since I was born. Every year I would get pneumonia, bronchitis, et cetera. One year it was really bad I'm not sure how I survived it and I thought.... I could defeat all this. If I could defeat something physical, then I knew I could do all this. (Jennifer)

These students' stories exemplified their belief in their ability to flourish in spite of the adversities they experienced.

> If the world ever came to an end, or it came to the point where there were only four thousand people left, I know I'd be one of the last ones to survive because I'm so driven to take care of myself and those around me. (Rose)

Having a goal. The determination to pursue a university education in some cases resulted from the pursuit of an ultimate goal in which a university education was necessary. This motivation to pursue a specific goal may have been realized early, as in this example.

> All my life, I've been determined. I've known since grade four that I wanted to be a vet. It didn't matter. I had the marks, I could physically do it, I could mentally do it and there's such drive. Like sheer drive. It's not the fact of the marks, it's the drive itself, to want it so bad, to keep pushing yourself even when you hit rock bottom. (Rose)

In one case, the student did not have a specific goal but rather a more general goal to rise above present circumstances.

> When I was in grade six I decided that I wanted to go to get a secondary education to get a good job....my family comes from poverty so I wanted to do better than my family...I just had determination and decided I would go to university. I remember I was in grade six, in the hallway, and I wondered what year I would be in university... I was out by one year... That was a moment in my life that I knew what I wanted. (Jennifer)

At other times, the desired objective became to emulate the people that had created a profound impression or played a significant role in the student's life history such as a psychologist, counsellor, or teacher. "But just growing up and seeing how my

other teachers affected – like how they were to me and I kind of want to be that teacher to somebody else" (Christopher). The desire to pursue a goal may also originate from a belief system,

> I think religion helps a lot – keeps me going –like if He didn't have a plan for my life, I would have died when I was three-and when I was hit by a car when I was in grade six – he could have bumped me off then – and obviously He had a plan for me beyond that – there've been so many times – hit by a car – I'm like there's still something that I'm meant to do and I think teaching (Amanda)

The importance of goals to ignite the determination to succeed is succinctly illustrated by this participant, who when asked what drives you, replied, "It's seeing the bigger picture. It's knowing what I want to do later on" (Margaret).

Discussion. All the participants demonstrated determination that was generated by a personal quality, the drive to prove others wrong, the belief in their own abilities, and the pursuit of an ultimate goal. Determination appears to be a protective theme in several studies. Smokowski, Reynolds, and Bezruczko (1999) found in their study on the development of adolescent resilience that resilience as a process entailed a consistent struggle for positive adaptation that was typified by perseverance, determination, belief in a better future, and the maintenance of personal dreams and goals. In their study of college students with and without LD Hall, Sruill, and Webster (2002) found that students who are learning disabled reported a higher drive for achievement. The college students that Miller (2002) described as resistant shared a quality that he classified as self-determination. For example, one student wanted to "prove others wrong in their estimate of what he could accomplish" (Miller & Fritz, 1998, p. 268). Several participants in Miller's (1997) study, much as the participants in this study, deliberately choose academic challenges, to prove to themselves and others they could do it.

In their study of workplace success, Reiff et al. (1997) found that the one over riding factor that was fundamental to the success of adults with LD was the quest for

control. The pursuit of control involved a variety of considerations, which they organized under two categories: internal decisions and external manifestations. The internal decisions included desire, goal orientation, and reframing. Their terminology may be different, but desire as described by their participants mirrored determination in this study. One of their participants stated, "You have to be determined in life if you are going to make it" (p. 106). The desire or determination to succeed originated early, as a personal quality, or developed more slowly over time. Goal setting was also central to the internal decisions made by successful adults with LD. Their apprehensions about the possibility of failure drove successful adults with LD to set realistic goals (Reiff et al., 1997).

Theme 2: Working Harder/Persistence

Although the participants expressed their determination convincingly, motivation without action to sustain it would be futile. Many of the participants revealed that not only were they determined to succeed but also that they were willing to make the effort their learning disability necessitated.

> Reading for me takes so much effort that my eyes start to water. I would read the book with my head on the table with that side of the page. Reading is still problematic for me… my spelling has gotten close enough that the spell check is a useful tool, before it was not a useful tool. I would spend time respelling it. I am getting close enough and the pop up menu has words that were very similar so having to determine which word I wanted was very frustrating. I was spending a lot more time, twice or three more time as anyone else. (Jeffrey)

In addition, they were prepared to secure the time required to succeed. This student revealed that all she " did for a complete semester was go to school, come home, study all night, go to sleep and go back to school and do it all over again" (Janet). At times, the motivation to succeed made the student with LD unable to judge that his/her effort was greater than what would be expected from a student without disabilities.

> I never considered it a lot for me, I thought it was normal until people were talking about the same thing and I was putting in more hours into it than other people. That was sucky, but I dealt with it. For me, this is what I have to do. I always used more time than other people I just never realized it. (Jennifer).

> It took so much effort and I thought everyone was doing it that I was just working too hard....I did three hours a night of homework in grade 7. I did it to the best that I possibly could. It got to be a problem and my parents were calling the school and saying that Jeffrey is working too hard...I really had to learn to do less. (Jeffrey)

Unfortunately for these students, their awe-inspiring efforts were not necessarily externally validated.

> Everything that I learned was fascinating. Psychology, philosophy, sociology, they all blew my mind. School became my addiction. My marks were not reflecting my learning. I wanted to tell people what I knew and I couldn't do it on paper and multiple choice is not what I like. After my first semester I got a letter...it was a Dean's vacation letter...I was very upset by this, I'd worked so hard, it destroyed me. (Janet)

These students were willing to retake courses to get "better marks that way" (Janet). If given a "second chance," this student felt "this time I will actually be able to accomplish the goal" (Amanda).

In order to find the necessary time to compensate for their learning disability, these students decreased their time to socialize, voluntarily. "Even just to talk to people, I make sure I have time to do that but it's really decreased" (Rose). Although this student wished she "had more time for a personal life," she stated, "but this is secondary education, you have no personal life" (Jennifer). Because students with LD may need extensive time to circumvent or compensate for their disabilities, time takes on a different meaning. It becomes a precious commodity.

> Time is something that is the most important thing. Time is priceless when you're LD. And it is something you have to be willing to do, and that's where you have to be determined, 'cuz you know things are going to take you more time, but in order to be successful, that's what you have to do. (Anthony)

Discussion. Many of the participants in this study revealed that not only were they determined to succeed but they were also prepared to make the effort and secure the time that the pursuit of their goals required. Kolanko (2003) also found that nursing students with LD believed that they worked harder than their peers without LD; however, their hard work did not necessarily yield positive outcomes. The extraordinary amount of time, effort, and energy that are used by successful high-ability university students with LD may be considered a compensatory strategy (Reis, McGuire, & Neu, 2007). Hard work and perseverance were required to graduate from university for students with LD (Skinner, 2004). Academic success came often at the expense of social experiences and relationships. Reif et al. (1997) also found that internal decisions, that is the desire to succeed, and goal setting, needed to be translated into actual behaviours that lead to adaptation. The highly successful adults in their sample were very persistent. Persistence and tenacity became a way of life. For these adults with LD, obtaining success "often meant working harder than everyone else" (p. 111).

Theme 3: Helpfulness: Making a Difference

All the participants spoke of an altruism/helpfulness or a desire "to help" (Jason). This interest in helping others at times originated very early, "even when I was a kid my mom always said I was like that. I've always wanted to help people, always" (Lyn). At other times, the interest in helping others originated from a desire to share experiences gained through difficult circumstances and a desire to help prevent or alleviate these negative situations for others.

> When I was in high school I put myself through counselling. I decided that once I started to feel better or less depressed then I would want to do this for others. My thoughts were to become a psychologist and heal people. (Janet)

> I've always wanted to help people....If I had had the help before all this stuff had gone on, I think my life would have been different...I really don't want to...see anybody go though that . It's too much, too much....So [if] I don't help kids, then I'm almost wasting what I've been given and what I've gone through. (Lyn)

Additionally, these students wanted to encourage other students with LD by sharing their dominance over their challenges, and their academic success.

> One thing that I have done was gone back to the junior high that I went to....and asked if I could [be] a speaker. What I wanted to tell them was that you as a student with a severe LD can have success in a post secondary institution. I've never had anyone tell me that. I wanted to communicate that to these kids. (Jeffrey)

Several students felt they had important supportive roles to play within the learning disabilities community. These roles included advocates, resource, role models, and mentors.

> I want to advocate. I needed to start advocating for myself....I had to tell them specifically what I needed and since then it has been a desire to make it easier for the people [who] come next. Not just to get through but to make the path wider as they go through it.... I wanted to make it easy for not just me, but for other people as well....It is the appropriate thing to do to help people behind me. (Jeffrey)

> I just want to be a resource for other students. I can tell them what I did and I am proof. I just want to help. That also ties into being a psychologist. I want to help people. I want to share what I was able to accomplish and show them that it is possible. (Jason)

> I am amazed that there are people like me and I can be an encouragement when they have anxiety. I am a role model to some people. (Anne)

> I want to be a mentor to students who do have LD so when I do become a teacher – I want to show them that – yes, it can be a challenge but you should never let that hold you down. Do not let teachers that think otherwise or anybody in your life tell you 'you can't do it,' because you can. (Anthony)

Discussion. Surprisingly, *all* the participants in this study aspired to be helpful to others or to "just make a difference" (Lyn) in the lives of others. They wanted to share the experiences they had gained through difficult circumstances and possibly prevent or alleviate these negative situations for others. Eight of the fourteen participants in Shessel and Reiff's (1999) study examining the experience of adults with LD also felt that having a LD fostered their desire to help others. Similarly to the participants in this study, they believed that their experiences could help others. They volunteered

counselling and advocating to other individuals with LD. Three participants choose careers in the helping professions.

Theme 4: Positive Perceptions

The participants in this study either had a positive perception of their disability or they reframed their perception of their learning disability. The disability was seen as a challenge to be overcome, as in this example: "I don't look at my disability as being a disability. It's just a challenge that I have – have to overcome to get on to where I want to be" (Christopher). Having a learning disability meant they became stronger because they needed to learn to master difficult skills.

> I learned the skill of mastering tasks no matter the difficulties of them....When I was learning that skill of mastering something hard, I had to go through it, I had to learn it and master it. I didn't have an option of choosing not to learn how to spell and read or do math. (Amanda)

Participants also spoke of circumventing their disability, "I never considered my LD an issue; I used it, worked my way around it and went from there" (Jennifer). They found ways to compensate for their disability.

> I see patterns...Chemistry is a lot of formulas and they all float in my head and I see it visually floating in my head to remember what it is...I can understand things more quickly. I can understand an entire unit in two hours if someone tells me what is happening...as long as it is visual. I can also see the book in my head and flip the pages (Jennifer)

Acquiring this ability to circumvent and compensate for a LD may result in greater strength, as this participant clearly stated: "Honestly, I think, having LD makes me stronger. (Anthony). This compensatory ability and inner hardiness can be utilized in other areas of life. For this student, "having a LD has opened a whole new world of resources for myself because I've had to find other ways around things. Not just in school, but in life" (Lyn). Several participants felt that these coping mechanisms

promoted their creative abilities or "the creativity... in some ways comes with the disability" (Margaret). The creativity was helpful in problem solving.

> The creative side of me and my disability go hand in hand. I know a lot of artistic people. We all tend to think differently. I am surprised how many of them have also been diagnosed with LD. You just look at the world differently. You don't look at it from inside the box. I think that it changes the way you see the world and it gravitates toward creative endeavours. In order to solve problems you have to look at things in a different way and that needs creativity. (Anne)

One participant wanted to use his creativity to help others understand the disability and to help him come to terms with his disability.

> I want to tell my story ....I want someone to understand how I read. I want to incorporate that in because I get confused with spelling, pronunciation, etc....There will be that element along with some visuals and that kind of thing. I am working on this now....The artist in me wants to show people what it is like. It also helps me come to terms with it. (Jason)

Discussion. Participants were able to see their disability as a challenge. They believed that, when they were able to meet this challenge, they acquired inner resources that they were able to utilize in other areas of their lives. Several participants felt that the coping mechanisms they learned promoted their creative abilities and that their learning disability was connected to their creativity. In the Reiff et al. (1997) model of vocational success for adults with LD, reframing was the final component of the internal decisions category. In this model reframing is a dynamic process of "continually confronting strengths and weaknesses and adjusting accordingly" (Gerber, Reiff, & Ginsberg, 1996, p. 100). Similar to the participants in Reiff et al. (1997) investigation, the participants in this study were able to reinterpret their learning disabilities experience. They believed that the major obstacle facing them was not the learning disabilities but rather the ability to face the various challenges that are inherent in living with learning disabilities.

Theme 5: Having Supporters

The participants in this study all acknowledged the importance of the people in their lives who encouraged, supported, and inspired them. This included teachers and professors, family, and friends.

Teachers/professors. According to the participants, teachers and professors played a significant role in their lives. One student describes her English teacher as her "saving grace" (Jennifer). This was understandable in that a LD is a social construct whose significance is most apparent within the educational context. Given that students spend a substantial amount of time in the school environment, teachers may directly influence their students' perception of their LD as this example illustrated.

> This teacher that drove me crazy, this one time in physics class.... he was explaining something and I thought I would give it a try and try to understand...I asked him to explain it another way... I still didn't get it...he explained it again and I got it. Then I came up with all these questions and he started to explain these things and I was fascinated by it... the teacher asked me to stay behind after the bell rang. He looked at me and said, "you know you have a mind like Aristotle and I really respect that." I didn't understand how profound that was but it stayed with me and I thought about it.... It didn't sink in right then but it did eventually and it was one of the reasons why I decided to even try and apply to university. (Janet)

Frequently, a teacher or professor identified the LD:

> I got a new teacher who was wonderful and was able to say that there was something going on with me and then I was able to get resources from a resource room for a portion of my day to help me read...I had that teacher for 3 years...(Jason)

Often the teacher or professor helped the student see the ability in the disability.

> I approached him [professor]...I had an hour long meeting with him...he was interested in my LD. I began to see my differences as more of a strength than a disability. It was through him I saw something negative move into a positive (Janet)

Students spoke highly of teacher and professors who encouraged them and showed them kindness.

> There was a math teacher I had ....this teacher worked with me I think two mornings a week to help me out in math, so I could graduate with 30 level courses. And to this day, like that teacher is somebody who will always be an inspiration in my life...(Anthony)

> [The professor] did everything she could possibly do and encouraged me and my grades went up. I ended up getting the highest mark on an assignment, and she came running down the hallway to show me my mark and [she] was so excited. That was when I realized that this wasn't the scary place that I thought it was, it wasn't a place that I didn't belong in. (Anne)

As the experiences of the participants in this study have illustrated the impact of teachers and professors on their students was profound.

Family. Several participants were able to find the support they required within their families. The following student recognized the benefit he/she obtained though having supportive parents.

> But you know what? There're so many students out there that have the same low self esteem and continue with that. I had something different. I had a huge advantage. I had a great support team. My parents. (Anthony)

Students, who had the support of their parents, appreciated the assistance offered them.

> My parents were supporting me. Regularly reading at night. All though elementary, every single night we read. Parents were very supportive and interested in what we were doing. (Jeffrey)

Sometimes, what was perceived as lack of support, "my parents sat there and they said nothing. I was so angry and I had no support" (Anne),was only in retrospect, understood as the inability of the parents to offer support as a result of their own life histories.

> That was a moment when I realized that when my teachers told me I could never go to university and my parents never stood up for me, it wasn't that they didn't

> think I could do it, it was because of there own stories. It was a moment of understanding. All through university they were so proud of me and supportive. (Anne)

Mothers received recognition as playing a "hands on role." As this student stated, "my mom has been very supportive of me. Someone who sits up and edits papers for you at three in the morning is very supportive" (Jennifer). This student gaves her mother the credit for her academic success.

> If it wasn't for my mom I would never have passed. She was always there for me emotionally; made sure I always did the work, made sure I understood the concepts. Helped me. Made sure that I was always doing stuff. She is the main reason I am here…I've made it this far because of my mom. (Jennifer)

At times, it was not parents but romantic partners who supported the student with LD "financially, academically, and emotionally" (Jason) or with motivation.

> I was with a serious guy at the time….He was doing very well for himself. He gave me the drive to pull up my socks and finish my diploma. I finished my diploma one year before he did. (Janet)

In one case, the student recognized that he chose partners with a specific trait that compensated for his disability.

> I have always chosen partners who have read. It is a quality that they can communicate to me, and I can get the information that I want and need from them orally…. I don't look for them, but when I find them they are so useful to me that I pursue them. It is a coping mechanism that I have learned. (Jeffrey)

Unfortunately, not all participants received encouragement and support from their families. One participant's parents did not attend his convocation, which "upset" (Jason) him.

Friends. The idea of pursing a university education may have originated from conversations among friends.

> I was talking to a friend and she suggested that I go to school to get a better job….I thought she was right but I didn't think I could go to school. She told me

> that if she could go to university then I could too. Than I told another friend and she said the same thing. (Anne)

Friends could also be of assistance with the tangible actions necessary in realizing an university education.

> I was concerned about filling out the application form. So I said, "No, I wouldn't do it." Then my friend showed up at my door with the application form...She kicked my "butt" through the [university] door...She had a huge impact on my life in a very positive way. (Anne)

More frequently, the participants found that friends were instrumental in helping them compensate for their disabilities while at university.

> I am part of a study group. A few of us would come together and go through the notes and if someone didn't understand something, we would explain it....I did have one friend....we decided to do a trade.If I didn't understand a concept she would help me, and if she didn't understand then I would help her. (Jennifer)

Although participants mentioned friends as being instrumental in their pursuit of a university education and helpful while at university, they did not seem to play the prominent role that family and teachers did.

Discussion. The importance of responsive caring adults as predictors of resilient status has permeated the literature on resilience. Werner and Smith (2001) found the resilient child was not only able to establish a close bond within the extended family but also was able to seek out positive role models in the community such as a teacher. The presence of caring adults within the family context, and the presence of external supports such as a teacher or other caring adult, also has been found to assist children in circumventing the adverse effects of poverty (Garmezy, 1991). Supportive ties with parents and other adults were beneficial in the development of resilience in adolescences, whereas "hanging out" with peer had negative effects (Nettles, Mucherah, & Jones, 2000). Interestingly, informal social support from peers has been related to

better peer self-concept but to lower academic adjustment (Cauce, Felner, & Primavera, 1982, as cited in Luther & Zigler, 1999).

Werner and Smith (2001) found that the two important variables that facilitated positive trajectory for participants with LD were the care-giving style of the parents, especially the mother, and that of supportive adults or "surrogate" parents such as teachers, members of the extended family, youth leaders, and members of church groups, who fostered trust and provided role models. An encouraging teacher and a special friend were two of several themes that differentiated between the academically achieving, resilient participants, and those who were not academically successful in Miller's (1997) study.

Theme 6: Diverse Educational Trajectories

Only two participants transitioned directly from secondary school to university. The majority of the participants followed diverse educational paths towards a university education. Several participants selected smaller colleges from which to make the transition from secondary to post-secondary schooling. The decision may have resulted from several factors. For example colleges offered smaller classes and was less expensive than the university. However the foremost reason that these participants selected smaller colleges to start their post secondary education was a result of their inability to obtain admission to the university. As one student stated, "My marks weren't high enough when I left high school" (Christopher). Another felt that going to college offered him an opportunity to demonstrate his capabilities. "I proved myself to the university and got in" (Jason). One participant saw college as "kind of a backdoor into university" (Lyn). Artistic ability or mature student status were also utilized when seeking admission to college or directly to university. Artistic ability "opened the door" (Anne) giving participants the opportunity "to get into something that's long term" (Lyn).

Discussion. Most of the participants in this study did not attend university directly after finishing high school. They most frequently attended smaller colleges that offered them smaller classes and an opportunity to demonstrate their abilities. At times, mature status or artistic ability was utilized to pursue their goal of obtaining a university education. As stated previously, the students with LD who do decide to pursue postsecondary education were more likely to attend vocational programs and community colleges rather than four-year colleges and universities (Hall et al., 2002; Murray, et al., 2000). Therefore, the students in this sample were exceptional in that their ultimate goal was a university education especially when considering that in the United States the 24th Annual Report to Congress cited that 29.4% of students with disabilities dropped out of high school in the 1999-2000 school year as opposed to only 10.9 % of all 16 through 24 year olds (Hart, Mele-McCathy, Pasternack, Zimbrich, & Parker, 2004). They were also exceptional in that although the percentage of students in Canada with or without disabilities who obtained junior/community college qualifications were similar (16% versus 17%), only 11% of working-age Canadians with disabilities graduated from university compared to 20% of those without disabilities (Jorgensen, Fichten, Havel, Lamb, James, & Barile, 2005).

Theme 7: Accommodations

While at university, participants utilized the accommodations that were offered to them by virtue of their status as students with a LD. These accommodations enabled them to show their potential. Teachers at the elementary and secondary level may do this informally as in this example.

> The teacher did things on my midterms and finals and took what I wrote and gave it to other teachers and asked them what mark they would give me without actually seeing the paper, they didn't see the spelling mistakes or lack of punctuation. They only heard the paper, didn't see it. I ended up getting a 96% on the final. (Jeffrey)

An assessment identifies what type of accommodations would be necessary for that particular student. An assessment may be done while the student is at the elementary or secondary level or at the post-secondary level as was the case for this student.

> ...the second year I was assessed. They said ....that I had a LD that I was compensating for so long that they couldn't tell me exactly what it was. I was able to get access to resources like extra time to write my exams, the people, and the classes that were offered by [Disabilities Services]. (Jason)

The assessment offered students with disability access to accommodations that help them successfully complete university studies. These included, "tests on tape" (Jennifer), exam accommodations (Jason), "courses in reading, comprehension, writing, study skills, and time management" (Janet), and "scanning, palm pilots, laptops" (Jason). For some participants, not only did assistive technology facilitate successful completion of university studies but also it added to their quality of life.

> [The computer] has a voice output feature...and it blew my mind, I...sat down and listened to it talk to me for 10 hours...It was the first time that I ever had access to this information without someone reading it to me, without another person there. It created independence and it changed my life.... I can get into books now too. I have something that can read to me 24 hours a day, doesn't get tired, and doesn't get bored...This was revolutionary for me. (Jeffrey)

Receiving accommodations helped participants with the difficulties they faced academically; however, accommodations did not eliminate all challenges. Even with accommodations, participants found university difficult.

> And it still, even though, with the skills ...and the technology, it's still a slog but it's better because of having the skills and having some of the technology in place that is getting me through it. (Margaret)

In order to access services, students needed to contact the disabilities services office at the university. Several spoke of the importance of this connection for the "emotional support" (Amanda) and the "supportive environment" in which they "never felt

ashamed" (Jason). Therefore, accommodations at the university level were important to help participants complete course work. The additional benefit was the connection several students formed with the disabilities services office.

Discussion. The participants in this study all used accommodations. This is understandable given that these students were recruited for this study through the Specialized Disabilities Support Centre at their university; however this is not the case for all students with LD. Post-secondary institutions are legally responsible under Human Rights Legislation (Alberta) to provide appropriate services to students with disabilities. However, it must be noted that postsecondary students with disabilities bear the responsibility for initiating, designing, and ensuring their own educational accommodations (Gajar, 1998). It is the responsibility of the student to provide documentation of the disability and to obtain any accommodations that they may require during their course of study. Many students with disabilities lack the skills necessary to request and negotiate accommodation at the postsecondary level. Therefore, while in college, students with disabilities are not necessarily accessing the formal support services or accommodations that are available (Cowen, 1988; Vogel & Adelman, 1992), because they are unaware of the help that is available to them (Cowen, 1988) or because they received a negative response to their request for assistance from a professor (Greenbaum, et al., 1995; Hartman-Hall & Haaga, 2002).

Students with LD who perceive their exceptionality as global, stigmatizing and non-modifiable are even less inclined to seek help when faced with a negative response from their professors (Hartman-Hall & Haaga, 2002). This finding is disconcerting given that receiving accommodations may mean the difference between success and failure (Skinner, 2004) and that a strong relationship with an academic advisor who understands and believes in the ability of the student with LD to succeed is one of the

most important components of the services provided to students with exceptionalities (Vogel & Adelman, 1992; Vogel, Hruby, & Adelman, 1993). Several participants in this study referred to the importance of the connection with the disabilities services office. It is difficult to determine the extent to which accommodations contribute to the academic success of students with LD at the post-secondary level as there is no national requirement in Canada that institutions collect and report on the status of students with disabilities (CADSPPE, 1999).

Metaphors

As stated previously, participants were given the opportunity to speak metaphorically about their life experiences. This allowed them the opportunity to convey their experience of the world in a different representation, while allowing the interviewer a different perspective. An unexpected finding was that quite a few of the metaphors reiterated several of the themes that were generated by the narratives. One participant's metaphor alluded to the risks these students experienced as a result of their learning difficulties.

> Image for my life ...my image changes – like when I was in grade one I would have told you – that my life at that moment – I felt like I was standing on a cliff, watching waves break against the cliff, and being all alone. (Amanda)

Also the determination that participants spoke of previously was illustrated directly in this metaphor.

> I just saw Memoirs of a Geisha and they were talking about water and how it is soft but it runs through and has the most power even though it can be gentle. I see myself as water because I am gentle but there is strength. It is not like a blazing fire that people are going to notice. It is slow and steady and constant and it just keeps running. (Anne)

Another participant saw her determination as coinciding with that of a child's storybook character,

> My grade one teacher read it to my class, and I saw it at the Children's Festival – it's The Paper Bag Princess…And I was watching a show on Robert Munsch and he said you know a lot of people really like this book….and [what] I really love is that she is so determined….she hits rock bottom…And instead of saying 'I'm at rock bottom, I'm a Princess and my castle's been burnt down – I have no more lovely clothes' she puts on a paper bag and goes to rescue her Prince. Which is so me. (Amanda)

The ability of this participant to rise to life's challenges was depicted in this metaphor.

> Whatever life throws I can handle it. It is like being on the high diving board at the pool. Nine out of ten kids will walk off due to fear, and I would jump right in. This is my metaphor for life. Even though I am afraid I still go into it. (Lyn)

Not only did the following two participants deem they could rise to life's challenges but they also believed they are persistent in facing these challenges.

> I keep bringing back gardens because [they are a] challenge to grow. Overcome a lot of things and you end up with a very bright beautiful flower. Life is like a garden where you start off with something and create it to be beautiful. (Jennifer)

> Yesterday, I kind of thought I was a bit like a gerbil or some little rodent that you buy those cute little habit trail things for – and they wander around the habit trail – I was big on the wheel – keep going on the wheel – let's go….I'm probably one of those just keeps going and going – if I push the button long enough – I think that's what I was – I must have been that in my last life – something persistent. (Amanda)

Two participants illustrated their life as evolving, or constantly changing. One of the participants strived toward a goal, whereas for the other the evolving was the goal.

> A roller coaster with a final destination. Because a roller coaster, if you think about it doesn't ever really end. The car is always gonna go around the same track, right? Where my life's a roller coaster – it's got ups and downs, .I know where I want to be, but it's getting there…. So, it's a roller coaster, it's always going ever which way and every direction but it's got an end point. (Christopher)

> The metaphor for my life would be transformation. Yes. It is part of it. Chaos. Not that it is negative, it just is. It is constantly changing. I think that not only is it constantly changing the different parts but you are constantly changing in that change. My life is never at rest. It is constantly changing. Different aspects of my environment are changing. It is a continuous change and it is going through chaos and transformation at the same time. With chaos comes transformation.

> Things that are evolving. It is not really one metaphor. It is a complex metaphor. It is a crazy life I live (Janet)

In the following metaphor, a participant alluded to "the ability to think outside the box" (Anne) that was noted by other participants.

> Something running free I guess. Always having that freedom, no boundaries. Always being on the go. It's almost like a dolphin in the ocean, where there are no boundaries. The land doesn't stop. It just keeps going. It's all connected. There's no boundaries whatsoever, you just keep going and going ....Someone with no boundaries whatsoever. Totally free. I try not to let life constrict me. (Rose)

One participant portrayed the success he is now experiencing through the metaphor of the butterfly. "That butterfly you're looking at that's symbolic of how I've been a success story and it continues." He offered another metaphor to explain this transformation.

> I can see myself as a hermit. I just always stayed in my shell. I wasn't very active at all, just hidden and then as time went on, I gradually – I started out by taking a few peeks out of the shell. And then as....time went on, I continued to bring my head out even more until it was all the way out. And I'd keep it out for a brief, few seconds, and it would go back in. And then I'd work on keeping my head out longer. And again it's symbolic of the years. As stuff went by, I continued more confident in my self and the head came of the hermit shell. (Anthony)

Using metaphorical language, participants reiterated the social-emotional challenges they faced and their determination and persistence in rising to these challenges. Metaphorical language also allowed them to illustrate their ability to strive toward goals, alluded to their ability to think "outside the box," and portrayed the success they were experiencing.

Discussion. It is believed that the metaphor is not only an important rhetorical device but also that metaphoric language is fundamental to thought itself (Gibbs & Franks, 2002). According to Lakoff (1993), metaphorical expressions are the surface expressions of "cross-domain mapping in the conceptual system" (p. 23). Metaphors are

employed in counselling (Bergman, 1985; Gordon, 1978; Keeney, 1983) and in medical settings (Gibbs & Franks, 2002). All therapeutic approaches make use of metaphors such as peak experiences or little black boxes. These sets of metaphors form a common vocabulary that is capable of conveying for some individuals their experience of the world (Gordon, 1978) thereby facilitating change. In the field of medicine, metaphors are important in thinking and speaking about illness. Gibbs and Franks stated that not only does the metaphor provide a tool for communication about senseless suffering but it also offered the individual a blueprint for personal transformation in coping with illness.

Metaphorical language is used in the area of leaning disabilities; however, it is most frequently used to describe instruction such as the metaphor "scaffolding" or as a tool to assess individual cognitive ability, creativity, and abstract reasoning ability (Lee & Kamhi, 2001). Given that the understanding and use of metaphors improves the development of thought, metaphoric competence also provides a measure of conceptual and linguistic abilities (Lee & Kamhi, 2001). Lee and Kamhi found that children with LD who had a history of spoken language impairment consistently performed more poorly on metaphoric tasks than children with LD who had no spoken language impairment. However, both groups of children with LD demonstrated less metaphoric competence than their peer without LD.

Cocking and Astill (2004) used literature as a therapeutic tool with people with moderate and borderline leaning disabilities in a forensic setting. Stories were used in the intervention as tools to assist individuals in the development and understanding of their emotional responses. Reading literature (Henry, 1999) offered individuals "models to identify with and behaviour that they can emulate, encouraging positive social-emotional development and furthering the ability to overcome adversity" (Gardynik & McDonald, 2005, p. 213). Although more research is necessary, the importance of

competence in metaphoric language for individuals with LD needs to be considered. The possibility needs to be deliberated that metaphors may constitute a protective factor that offers students with LD a means of communicating and making sense of their experiences and of facilitating transformation.

Conclusion

A learning disability is an adverse condition that frequently increases an individual's vulnerability to academic and social-emotional difficulties. However, this study has revealed that there are personal and situational factors that may contribute to positive adaptation or academic resilience. Results of this research, combined with previous research, delineated factors that may contribute to students with LD pursing a university education The retrospective accounts rendered by the participants indicated seven common themes among them. These students demonstrated determination and persistence. They saw or were able to reframe their disability positively, and astonishingly all of them had a desire to make a difference in the lives of others. Supporters such as teachers, professor, parents, and friends were important. For many of these students, the path to university was diverse. While at university, they all made use of accommodations. Interestingly, the metaphors reiterated several of the themes that were indicated in the narratives. However, further research on the concept of resilience as it pertains to students with LD is needed because the possibility exists of fostering resilience through preventive interventions and programming (Doll & Lyon, 1998).

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Appendix A: Trustworthiness

To ensure that the findings were credible and trustworthy, the following strategies were employed: triangulation of data, member checking, rich, think description, and identification of the researcher's perspective. Triangulation involves using multiple approaches to substantiate the findings and confirm the credibility of the data collected. There are four types of triangulation: methods triangulation, triangulation of sources, analyst triangulation, and theory triangulation (Patton, 1990). This study is the first part of a two-part study using a mixed method paradigm, combining both a quantitative and qualitative methodology, thus utilizing the "fundamental principle of mixed research" (Johnson & Turner, 2003) whereby "different strategies and methods are used to collect multiple data in such a way as to result in complementary strengths and non-overlapping weaknesses" (Johnson & Onwuegbuzie, 2004, p. 18). Using a mixed method paradigm may result in a product that is superior to a mono-method study (Johnson & Onwuegbuzie, 2004), lead to convergent validity, yield conclusions that are convincing, and aid in transferability. Participants were asked to recall memories retrospectively; however, several data collection approaches were used to aid memory, including visualization, open-ended questions, and metaphors. To verify the consistency and validity of the coding procedure that was used, themes found were submitted to my supervisor. Finally, findings were compared with other findings/theories in resilience research.

Participants were asked to provide feedback by verifying the accuracy of their narratives. To ensure that the emic perspective, that is reality as constructed by each individual participant was represented, themes are illustrated with direct quotes from the participants. The research is grounded in the actual language of the participants, given that the goal is to achieve verisimilitude. Doing so allows readers to draw their own

conclusions and judge the validity of the inferences made by me. To reduce the likelihood of researcher bias affecting the results of this study, presuppositions as well as the qualifications, experience, and perspectives that I brought to the project were articulated in the thesis proposal and defence. Also, I discussed the research process on a regular basis with my supervisor.

Appendix B: Study Limitations and Delimitations

In order to make this empirical study achievable, there were variables that were excluded or not addressed. Academic resilience for the purposes of this research was defined as a quality of students with LD who were currently completing university degrees or had recently finished a program of studies. For practical reasons, this study was limited to a convenience sample with a relatively small sample size, making the generalizability of findings problematic. Participation in this study was limited to students who have self-identified themselves and accessed Specialized Support and Disability Services. There were also potentially influential variables that were not directly examined in this study such as IQ, social-economic status, and the severity of the LD. The process of data analysis and interpretation can also be cited as a limitation. By organizing the narratives into categories, the coherence of the life story was lost.

There were also variables in this study over which the researcher had no control. The self-reported data, collected through retrospective in-depth interviews, was only as good as the information presented. Participants may have not had perfect recall; they may have overlooked key issues or censoured their responses. In conducting the interviews, attention was given to the importance of rapport. However, rapport levels between the researcher and the participants were based on each individual interaction and could not be measured. The potential for a reactive effect to the interviewer must also be noted. Lastly, although the researcher attempted to maintain objectivity by identifying presuppositions prior to conducting the study, the subjectivity inherent in the research process needs to be taken into account.

CHAPTER 4:

DEFYING THE ODDS: ACADEMIC RESILIENCE OF STUDENTS WITH LEARNING DISABILITIES

> My life has been very tough in many aspects but finally after years I started to believe that all this happened to make me emotionally stronger and to understand how people with emotional problems feel. I think I am meant to be a leader who helps these individuals to be their best. (Comment written by a respondent)

Resilience has been defined as successfully coping with or overcoming adversity or risk (Doll & Lyon, 1998, Introduction), or the development of positive adaptation within the context of significant adversity (Luthar, Cicchetti, & Becker, 2000). The study of resilience is the study of human adaptability, of outcomes that defy the odds (Fine, 1991). It is focused on understanding how and why adversity can sometimes lead to competence and purpose (Young-Eisendrath, 1996). Resilience is inferred based on the presence of both risk and competence (Luthar & Zelazo, 2003) and therefore two critical conditions are implicit: (a) exposure to significant risk and (b) the achievement of positive adaptation despite threat to the development process. However positive adaptation in one domain does not necessarily reflect competence in multiple domains. This unevenness in functioning is evident in normal, abnormal, and resilient trajectories (Luthar et al., 2000).

The aim of the study reported in this paper was to examine the academic resilience of university students with learning disabilities in order to identify those factors that had enhanced their chances of attaining a university level education. A learning disability is an adversity that is linked statistically to poor academic outcome (American Psychiatric Association, 2000; Barga, 1996), whereas attendance at university represents a relatively good academic outcome. Therefore in this study academic resilience is defined as the quality of students with learning disabilities who are currently

completing university degrees or who have recently finished a program of studies. It is important to note that academic success does not necessarily imply positive adaptation across all important developmental domains.

To demonstrate positive adaptation it is important to look at the adversity inherent in having a learning disability, or as stated by Morrison and Cosden (1997, p. 44) to specify "At risk for what?" The literature review will first discuss those risks fundamental to having a learning disability. Second the research on the factors that contribute to positive outcomes will be discussed. This will be followed by an explanation of the method used. A presentation of the results and a discussion comparing the results of this research with current research in the area will conclude the paper.

At Risk for What?

A learning disability (LD) constitutes a risk in that it increases an individual's vulnerability to academic and social emotional difficulties (Yewchuk et al., 1992) making the school environment itself a risk factor for students who are learning disabled (Bender, Rosenkrans, & Crane, 1999; Luthar & Zigler, 1991; Pianta & Walsh, 1998). Students who are learning disabled frequently exhibit a discrepancy between academic achievement and intellectual ability, and as a result of their inability to process information correctly (Yewchuk et al., 1992), they may experience social or emotional repercussions (Wong & Donahue, 2002). Tur-Kaspa (2004) found that kindergarten students with LD experience difficulties in social-information processing before the onset of academic failure. Elementary school students with LD have higher levels of avoidance and anxiety in their friendships, a higher sense of loneliness, and a lower sense of coherence (Al-Yagon & Mikulineer, 2004). They have fewer corroborated/reciprocated friends, lower quality of friendships, lower social acceptance, lower academic self-concept, poorer social skills, and higher levels of loneliness (Wiener & Tardif, 2004).

These significant social skills deficits are manifested in peer rejection and social isolation (Kavale & Forness, 1996). Negative socialization in childhood may contribute to adjustment problems, such as dropping out of high school and juvenile delinquency (Margalit, Tur-Kaspa, & Most, 1999).

In adolescence the stress that students with LD experience in the school environment may manifest as anxiety (Dollinger, Horn, & Boarini, 1988) and depression (Bender et al., 1999) and create sleep problems (Dollinger et al.). Sadly adolescents with LD may lack the social skills to mobilize peer support for their emotional distress (Bender et al., 1999; Robertson et al., 1998), and they may demonstrate certain personality traits such as impulsivity and poor problem-solving skills that predispose them to attempt and/or complete suicide (Bender et al., 1999). They are three times less likely to aspire to postsecondary education and possess significantly lower occupational aspirations (Rojewski, 1996) resulting in lower rates of secondary school completion (American Psychiatric Association, 2000; Barga, 1996). Should they choose to pursue post-secondary education, they are more likely to attend vocational programs and community colleges rather than four-year colleges and universities (Hall, Spruill, & Webster, 2002; Murray, Goldstein, & Edgar, 2000).

Students with LD experience barriers such as labelling, stigmatization, and gate keeping throughout their academic careers, As a result they may use negative coping strategies such as hiding their disabilities (Barga, 1996), which results in their not accessing the formal support services that are available to them (Vogel & Adelman, 1992). They may experience protracted periods in school, or vocational training programs, which prolongs their dependence on family support. Therefore, a learning disability has an impact across the life span, frequently resulting in higher school dropout rates, underemployment, job difficulties, and self-esteem and emotional difficulties

(Spekman, Goldberg et al., 1993). However protective factors within the individual, family, and social environment can ameliorate the negative consequences of a learning disability making positive adaptation possible. The following section will discuss these protective factors.

Factors That Contribute to Positive Adaptation

An individual's vulnerability changes over time and across developmental levels making it difficult to identify competent children because the competence level of any child fluctuates. Pianta and Walsh (1998) argue that resilience should not be identified at any one point in time or with respect to a single outcome; rather, it is a dynamic process whereby development is the function of repeated resilient integrations (Richardson, 2002). It is only when children with LD are tracked into adulthood though prospective and retrospective studies, that researchers are able to verify positive adaptation. For example, Werner (1993) stated that had she concluded her investigation of individuals with LD at adolescence her study would have revealed a fairly negative prognosis for individuals with LD. However at age 32, three out of four of these participants were judged to have made a successful adaptation. They were satisfied with their job, marriage, children, and social life, and were free of psychiatric problems. Five clusters of protective factors appeared to support positive adaptation. They had temperamental characteristics that help them elicit positive responses from others. Although they were motivated to use whatever abilities they had, they had realistic educational and vocational plans. Their self-esteem had been nurtured, and they had experienced a sense of security in their familial home. Supportive adults who provided role models and opportunities at major life transitions were also instrumental in successful adult adaptation (Werner, 1993; Werner & Smith, 2001).

Spekman, Goldberg, et al., (1992) found that, although the consequences of having a learning disability were life long, and that individuals with LD experienced other risk factors, there were certain factors in the past and current experiences of young adults with LD that resulted in positive adaptation. Successful adaptation was defined as educational achievement, employment, social and familial relationships, and life satisfaction. The successful group of participants, in contrast to the unsuccessful group, was differentiated by realistic adjustment to life events, greater self-awareness/self-acceptance of the learning disability, perseverance, goal-setting, and the presence of a supportive network (Raskind, Goldberg et al., 1999). Surprisingly, in a 20-year follow-up study, these resilient attributes were found to be relatively stable across time and were more powerful predictors of success than other variables, such as IQ, academic achievement, life stressors, age, gender, SES, and ethnicity (Raskind et al., 1999).

Miller (1997, 2002), and Miller and Fritz (1998) found several themes that differentiated between successful and less successful university students with LD. The successful group, who were able to obtain grade averages of at least B+ in their college major, had experienced success in a group or team experience, had particular areas of strength, had an encouraging teacher, and had a special friend. They portrayed self-determination, acknowledged their learning disability, and had experienced distinctive turning points.

A learning disability does not necessarily preclude individuals from becoming highly successful in their respective fields. Reiff et al. (1997) conducted ethnographic retrospective interviews with 46 highly successful adults with LD and 21 moderately successful adults with LD. The key factor underlying the employment success for these adults with LD was their quest to gain control of their lives. This quest for control involved two sets of categories: internal decisions and external manifestations. The

internal decisions included a desire to succeed, the presence of goal orientation, and the ability to reframe the learning disability. The external manifestations, all of which pertained to adaptability, included persistence, finding a goodness of fit with the environment, the ability to enhance performance by developing creative ways to accomplish tasks, and the ability to create and utilize support networks. All participants discussed all of the key themes, but what differentiated the two groups was the highly successful adults' greater exceptionality in each of the derived themes (Gerber & Ginsberg, 1990; Reiff et al., 1997).

School achievement is increasingly important in today's exceedingly literary and numerical society. The completion of some form of postsecondary schooling contributes to ultimate success in the workplace and is a factor in positive adaptation. Most of the highly and moderately successful people with learning disabilities identified by Gerber, Ginsberg, and Reiff (1992) had completed some postsecondary schooling. The most common degree attained by the moderately successful group was the Master's degree, whereas the most common degree attained by the highly successful group was the Doctorate. The intent of this study was to look at those factors that influence the pursuit of a university education, and thus enhance positive adaptation.

Method

This study, which was a follow up to the qualitative study, also investigated academic resilience in university students with learning disabilities. The themes generated from the data acquired from the interviews in the qualitative study (see paper two) were used to form the foundation for a survey instrument that was utilized to determine how common these themes were in a larger sample. The quantitative study was done to confirm and extend the findings from the qualitative study in a wider

sample. Using a survey made the investigation of the frequency of the generated themes feasible.

Instrument

An analysis of narratives (Polkinhorne, 1995) was used to locate the common themes among the stories that had been collected as data in the qualitative study. The common themes were determination, working harder, helpfulness, positive perceptions, supporters, diverse paths to university, and accommodations. These themes formed the foundation for the survey instrument: Pursing a University Education. (Please see appendix A for a copy of the questionnaire). Actual statements spoken by participants pertaining to each theme and sub-theme were used in the questionnaire. Table 1 depicts the relationship between each statement on the questionnaire and the seven themes that emerged from the qualitative study. Statements 82 thorough 109 were included to ascertain whether learning disabilities indeed posed a risk factor academically and social-emotionally to the respondents. Items 1 thorough 11 addressed demographic issues.

Respondents were asked to rate how well the statements described their experiences using four categories: *does not describe me at all, describes me to a slight degree, describes me to a moderate degree*, and *describes me to a large degree*. Statements used to probe the strength of themes 6 and 7 required respondents to *agree* or *disagree*. Several contradictory statements were inserted to reduce the possibility of *responder bias* in that participants would answer arbitrarily without careful consideration of the wording. These were statements 36, 42, 50, 64, 80, 87, and 107. Respondents were also given the opportunity to use metaphoric language to describe their experiences of having a learning disability and had the opportunity to add any additional comments at the end of the survey.

Table 1

Items Pertaining to the Themes That Emerged From the Qualitative Study

Theme	Item
1: Determination	
Determination as a personal quality	Items: 12-15
Proving others wrong	Items: 16-20
Belief in abilities	Items: 19-20
Having a goal	Items: 21-23
2: Working Harder/Persistence	Items: 24-28
3: Helpfulness: Making a Difference	Items: 29-39
4: Supporters	
Teachers/Professors	Items: 40-45
Family	Items: 48-51
Friends	Items: 46-47
Others	Items: 52-54
5: Positive Perceptions	Items: 55-68
	Items: 69-73
6: Diverse Educational Trajectories	
7: Accommodations	Items: 74-81

Procedure

A small pilot study was conducted to provide input into the construction of the questionnaire. Participants from the qualitative component of the study, personnel working with students with learning disabilities, and several university professors were asked to read the statements for comprehensibility, to critique the formatting, and to offer input. Several statements were clarified, and several headings were altered.

Once completed, to facilitate ease of response, and to preserve anonymity and confidentiality, the questionnaire was posted directly on the Internet using Zoomerang (Copyright, 1999-2007). In the spring of 2007, consultants with Disability Services at both the University of Alberta and the University of Calgary notified 400 students with

learning disabilities of my study via e-mail. This e-mail included a description of the study (see Appendix B), and the Internet addresses to access the questionnaire. A follow-up e-mail was sent, which resulted in the return of additional questionnaires. In total 83 questionnaires were returned. The data from the questionnaire were analyzed using Excel by tabulating for each item the frequency distribution, percentage, mean, median, and mode. (Please see appendix C for all statistics).

Sample Respondents

Eighty-three students responded to the survey. However, nine respondents indicated that they did not have a learning disability; therefore their questionnaires were not used. Sample respondents ranged in age from 18 to 51, with more then 50% of respondents ranging in age from 18 to 24. Forty-seven percent were male, and 53% were female. Eighty-one percent of respondents were working toward a university degree, with 95% respondents working toward their bachelor's degree. However, 46% of respondents had been at university five years or more. Sixty-one respondents identified the faculty in which they were currently enrolled; 15 were in the Faculty of Arts; 10 were in Education; 9 were in Engineering; 7 were in Science; 5 were in Business; 3 each in kinesiology, Agriculture, and Social Sciences; 2 in Medicine, 2 in Commerce and one each in Law and Open Studies. Forty-seven percent indicated that they also had been identified as having a attention deficit. This is not surprising giving the concomitancy between leaning disabilities and attention deficit.

Reliability and Validity

When creating a survey instrument, two objectives are pursued: to write questions that provide consistent measures in comparable situations and to obtain answers that correspond to what they are intended to measure (Fowler, 2002). To insure that statements were as clear as possible, care was taken to avoid ambiguity of wording

and vagueness in response forms as well as standardizing the presentation. The participants of the small pilot study were instrumental in providing feedback as to whether this objective had been met by voicing their understanding of the question. Given that there are no external criteria to measure the validity of subjective statements, because validity can only by estimated by the extent to which answers for one question are associated in expected ways with the answers to other questions, or to the characteristics of the individual to which they should be related (Fowler, 2002), multiple statements were used to measure each theme.

Results

For purposes of clarity in reporting results, the response scale was collapsed. Responses of *does not describe me at all* and *describe me to a slight degree* were treated as disagreement with the statement presented. Responses of *describes me to a moderate degree* and *describes me to a large degree* were treated as agreement with the statement presented. The results section reports the percentage of respondents who agreed with the statements presented. (Please see Appendix C for all statistics). First the academic and social-emotional challenges that were encountered by the respondents will be discussed, followed by a presentation of each of the themes that had been identified as influencing the pursuit of a university education. Respondents written comments are incorporated into the discussion that follows the results section (Please see Appendix D for all respondents' written comments).

Academic and Social-Emotional Challenges

Academic challenges (Statements 82-94). Respondents experienced academic challenges as a result of their learning disabilities: 68% had/have difficulty with reading, 66% had/have lots of trouble with spelling, and 70% felt that other people seem to catch on faster than I did. Only 16% agreed with the contrast statement that they

had/have no problems at school. While at school 36% just thought that they weren't smart; comparatively 46% always thought there was something wrong. Fifty-seven percent were frustrated in school because they knew what was going on but their grades didn't reflect that; and 55% always felt that if they could just work hard enough they would do well, but they just couldn't work hard enough. Surprisingly, only 16% were not taught any of the same curricula as the 'regular' students. Seventy-eight percent needed more time to comprehend and process information. However, 41% were told that they were not doing well in school because of lack of effort or motivation. Twenty-seven percent were told they needed to rethink their goals because they would never go to university and that they would not amount to anything.

Social-emotional challenges (Statements 95-109). Respondents also faced social-emotional challenges as a result of their learning disability. Sixty-five percent of respondents feel/felt stupid or ashamed because they have a learning disability, 64% felt anxiety when called on to work at the blackboard or in front of the class, and 55% of respondents were self-conscious about how slowly they read. Although 66% have always had friends, 41% of respondents had/have a difficult time in social situations. A majority of respondents (63%) had/have emotional difficulties such as depression or anxiety, whereas the contrast statement revealed that 30% of respondents had/have no emotional problems.

Thirty-four percent of respondents were sometimes in trouble in school. Twenty-five percent were the class clowns, 29% had to stay in during recess or at lunchtime to complete schoolwork, or for misbehaving, and 29% were always the kid who was not picked by the other kids for group work or play. Eleven percent of respondents were teased by other students in the school because of their learning disabilities, 30% think they were seen as the outcast in school, whereas 26% of respondents felt that some

teachers saw them as the 'stupid kid' in the class. Furthermore, 51% of respondents were bullied/picked on at some point in school.

Themes

Theme 1: Determination (Statements 12-23)

The respondents to this survey perceived themselves as determined, with 92% agreeing to the statement that if they needed something done, they will find a way of getting it done. Eighty-one percent wanted to do things that are challenging, had the drive to see things through, even if it meant they needed to just keep on trying and trying. They (76%) agreed that there would be difficulties because of their learning disabilities but they would not let the difficulties hold them back. Sixty-two percent felt inside that they were smarter than people gave them credit for. Forty-four percent wanted to prove that they were good enough and that all those people who thought students with learning disability couldn't make it to university were wrong (50%). Fifty-eight percent wanted to prove that they could do what every 'normal' person could do. A large majority (85%) believed there is something in life they were meant to do with 91% of them agreeing that they want to become someone. Seventy-eight percent have always had a goal in mind.

Theme 2: Working Harder/Persistence (Statements 24-28)

A majority of respondents revealed not only that they were determined but also that they were willing to make the effort their learning disability necessitated. Eighty-four percent spend more time than most students to learn something; therefore, 78% worked harder than most other students. In order to find the time to study 76% decreased their social life, and 82% of respondents had to be very organized. Thirty-one percent have taken the same courses over again.

Theme 3: Helpfulness: Making a Difference (Statements 29-39)

Seventy-five percent of respondents have always wanted to help people, and 51% were involved in volunteering. However, 41% agreed with the contrast statement that they were too busy to help others. Forty-eight percent of respondents want to use their learning disability to help others with 40% agreeing that if they don't help others, they are almost wasting what they have been given and what they have gone through. Sixty-six percent want to show that you can have a challenge but you should never let that hold you down. Forty-four percent want to inspire other students with learning disabilities and 42% of respondents would like to be mentors to other students with learning disabilities and 45% want to be a role models for other students with learning disabilities. Fifty percent would like to tell other students with learning disabilities that, if I can do it, you could do it too. Findly 51% wanted to share what they have been able to accomplish by showing other people with learning disabilities that it is possible to get a university education.

Theme 4: Positive Perceptions (Statements 55-68)

Sixty-five percent of respondents were not ashamed of having a learning disability with 53% of respondents wanting people to know that I have a learning disability and that I can be successful. Respondents (41%) had more confidence to tell others that they had a learning disability because they were in university. However 76% only told people about their learning disability on a 'need to know' basis. Most respondents (86%) had learned to compensate for their disability.

The disability was seen as a challenge that had to be overcome to get to where they want to be by 65% of the respondents. Sixty-two percent never considered their disability an issue; they worked their way around it, and went from there. Interestingly, whereas only 34% of respondents saw having a learning disability as positive, only 26%

of respondents agreed with the contrast item that there is nothing positive about having a learning disability. Sixty-one percent of respondents agreed that their creativity in some way comes with my disability; however only 41% of respondents felt that having a learning disability gravitated them toward creative endeavours. Having a learning disability changed the way 68% of respondents see the world, with 44% agreeing that having a learning disability has given them a greater understanding of how other minorities are treated. A majority of respondents (61%) agreed that having a learning disability made them stronger.

Theme 5: Having Supporters (Statements 40-54)

Only 41% of respondents agreed with the contrast statement, "no one inspired me to go to university; I did it on my own" which would mean that in 59% of cases someone did inspire them to go to university. However, although 46% had a teacher who was a role model for them and 51% had a teacher/professor who was genuinely interested in them, only 32% agreed that if it weren't for the teachers that helped, they would not be here, and only a very small percentage (8%) agreed with the statement a teacher inspired me to go to university. Thirty-six percent had a mentor who inspired them to go to university. Sixty-two percent had very supportive friends; however only 8% had friends that persuaded them to apply to university. Counsellors/psychologists helped 8% of respondents see that they were capable of going to university.

Interestingly, 70% of respondents agreed with the statement my parents helped me much more than anybody else, with 58% agreeing that they've made it this far because of [their] mom and 61% agreeing that their father has been very supportive. Only 20% of respondents agreed with the contrast statement "I don't have a supportive network." Sixty-eight percent of respondents had a supportive network that helps them to succeed, and 60% were able to find people that are willing to help them.

Theme 6: Diverse Educational Trajectories (Statements 69-73)

A majority (70%) of respondents followed diverse educational paths towards a university education. Several respondents followed more than one entrance option. (Please see Appendix C). Thirty-three percent upgraded their high school grades before applying to university, whereas 42% selected smaller colleges from which to make the transition to post-secondary schooling. Thirty-nine percent had been enrolled in university transfer programs. Artistic ability (22%) and mature student status (30%) were also used when seeking admission to university.

Theme 7: Accommodations (Statements 74-81)

While in university, a majority (99%) of respondents utilized the accommodations that were offered to them by virtue of their status as students with learning disabilities. A large majority (84%) agreed that being assessed identified their strengths and weaknesses. Respondents used assistive technology (49%), learned about learning strategies (81%), and reduced their course load (62%). Likely as a result of the reduced course load, 66% believed they would take longer than the average student to complete their degrees.

Discussion

Students with learning disabilities face academic and social-emotional challenges in the school environment that render pursuing a university education difficult. "School work" can be "an endless struggle," and this can be "very discouraging." However, a university education is possible. This student's comment succinctly expresses the experience:

> Its been a tough road to get through university and there was many, many times when I wanted to quit and I felt like I couldn't make it but I hung in there and now I'm going to graduate this year. YEAH! It feels good!

This study identified several factors that may be instrumental in academic resilience. A majority of respondents identified themselves as exhibiting determination as personality strength, a belief in themselves, a desire to prove others wrong, while pursing a goal. Determination has been recognized as a protective factor in several studies. Hall et al. (2002) found that college students with learning disabilities in comparison with students without learning disabilities reported a higher drive for achievement. The desire to succeed and goal setting were considered fundamental to the accomplishments of successful adults with learning disabilities (Reiff, Gerber, & Ginsberg, 1997).

Academically resilient college students with learning disabilities shared a quality that Miller (2002) labelled as self-determination. They wanted to prove others wrong (Miller & Fritz, 1998), and they deliberately choose academic challenges (Miller, 1997). However, in Miller's qualitative study and in this study, it is unclear what mechanism enabled these students to not only circumvent the negative messages they received but also to use these negative evaluations as motivators.

To achieve academic success a majority of respondents dedicated extra time to their learning by decreasing their social life and by being highly organized. Almost a third of respondents were willing to take courses over again. This extraordinary amount of effort and time may be considered a compensatory strategy (Reis, McGuire, & Neu, 2007) that is necessitated by the learning disability in order to graduate from university (Skinner, 2004). Academic success often came at the expense of social experiences and relationships. It would appear this persistence and tenacity becomes a way of life for highly successful adults with learning disabilities (Reiff et al., 1997).

The determination, effort, and perseverance that student with disabilities must render is illustrated by this comment,

> To be honest I am a total nightmare to live with when in school because I have to do so much and often do not cope very well. School is an issue for me in a way that work is not because it is never ending. There is always more to do, reading, research, studying, and review. ...I find managing school with a job is not realistic, but it is not realistic to not work with the state of student loans, so I feel trapped. With only one more year I am on the verge of quitting because I cannot seem to get enough time in the day to train full time for my sport, attend class, work, and do well academically. I did not ever find that people were unsupportive; I just don't think anyone can fathom how hard it is compared with the experience of a regular student. All my friends have had a blast in university, and it has been the worst years of my life. No social life, no money, and constant stress and pressure to perform.

It would appear that determination, perseverance, and the willingness to make the effort that a learning disability necessitates are important factors in academic resilience. However, are students with learning disabilities who are successful in their pursuit of a university education necessarily stronger in these personality qualities? In order to answer this question a study needs to be undertaken that compares students with learning disabilities who are successful in their pursuit of a university education with those that are unsuccessful in their pursuit of a university education. Are the unsuccessful students less determined or perseverant?

A majority of respondents wanted to help others or demonstrate that challenges could be overcome, while almost half of the respondents wanted to contribute to the learning disabilities community. One respondent commented, "I would like to contribute to the community. For example, I want to help learning disability people like me." In Shessel and Reiff's (1999) study eight of the 14 adults with learning disabilities also felt that having a learning disability fostered their desire to help others. Three participants choose careers in the helping professions. In this study, 18 of the 61 respondents who indicated what faculty they were currently enrolled in, were enrolled in faculties that could potentially lead them to be employed within the helping professions that is education, kinesiology, social sciences, and medicine. Several questions could be asked. Are students with learning disabilities more likely to choose careers in the helping

professions? Do these individuals gravitate to the helping profession to emulate the people that offered them assistance? Or do they gravitate to the helping profession to help alleviate for others the challenges they themselves have faced?

A majority of respondents had a positive perception of their learning disability. They had learned to compensate for their disability and did not consider it as an issue, but rather a challenge that they had to overcome. Having a disability had made them stronger. In Reiff, Gerber, and Ginsberg's (1997) model of vocational success for adults with learning disabilities, which was based on their investigation of successful adults with learning disabilities, reframing was an important component. Similarly to the respondents in this study, participants in the Reiff et al. (1997) study were also able to reinterpret their learning disability positively. As one respondent in this study commented, "I love having a learning disability." Unfortunately, this student did not elaborate as to why.

A majority of respondents believed their creativity was connected with their disability. The ability to be creative and to problem solve in creative ways was seen as a positive aspect of having learning disabilities by several participants in Shessel and Reiff's (1999) study, whereas Reiff et al., (1997) found that the highly successful group of adults with learning disabilities used many different creative coping strategies and built on this strength. The cognitive ability of the participants in these studies is not known but may have influenced their ability to compensate for their disabilities creatively and, thus, their ability to reinterpret their learning disability positively.

The importance of responsive, caring adults as predictors of resilient status permeates the literature on resilience. Werner and Smith (2001) found that the resilient child not only was able to establish a close bond with the extended family but also was able to seek out positive role models in the community such as a teacher. The presence of caring adults within the family and in the social environment also has been found to

assist children in circumventing the adverse effects of poverty (Germezy, 1991). An encouraging teacher and a special friend were two of several themes that differentiated between the academically achieving, resilient participants and those who were not academically successful in Miller's (1997) study.

Surprisingly, in this study teachers, friends, counsellors, psychologist, and mentors inspired a very small percentage of respondents to pursue a university education. Although a majority had very supportive friends, it was the support of their parents, both fathers and mothers that was most helpful. As one student commented, "My parents were the biggest factors in my life and gave me the confidence to go on." Nettles, Mucherah, and Jones (2000) also found that it was supportive ties with parents and other adults that were beneficial in the development of resilience in adolescents, whereas "hanging out" with peers had negative effects. Interestingly, informal social support from peers has been related to better peer self-concept but to lower academic adjustment (Cauce, Felner, & Primavera, 1982, as cited in Luther & Zigler, 1999).

A majority of respondents followed diverse educational paths. They upgraded their high school grades, transferred to university from smaller colleges, enrolled in university transfer programs, and used artistic ability or mature student status when seeking admission to university. Students with learning disabilities are more likely to attend vocational programs and community colleges rather than four-year colleges and universities (Hall, Spruill, & Webster, 2002: Murray et al., 2000). And, although the percentage of students in Canada with or without disabilities who obtained junior/community college qualifications were similar (16% versus 17%), only 11% of working-age Canadians with disabilities graduated from university compared to 20% of those without disabilities (Jorgensen et al., 2005). Therefore the respondents in this sample are exceptional in that they were in attendance at university.

While at university, almost all the respondents made use of the accommodations that were available to them. This is understandable given that these students were recruited for this study through the learning disabilities listserv at their university. However, the importance of accommodations for students with learning disabilities is summarized in this comment written by a respondent: "Although there are critics against students getting extra time, without it I wouldn't be where I am now, perhaps they just don't understand what its like." Given that the majority of students in this study were completing an undergrad degree, but almost 50% of the students in this study have been in university five years or more, a reduced course load is an important accommodation. However, "financial stress becomes an issue because it takes longer for a student with a disability to complete a degree." The fact that these students utilized accommodation is a positive finding because many students with learning disabilities lack the skill necessary to request and negotiate accommodation at the postsecondary level (Gajar, 1998). Therefore, while in college, these students are not accessing the formal support services or accommodations that are available to them (Cowen, 1988; Vogel & Adelman, 1992), especially if they received a negative response to their request for assistance from a professor (Greenbaum, et al., 1995; Hartman-Hall & Haaga, 2002).

Receiving accommodations may mean the difference between success and failure (Skinner, 2004). Furthermore a strong relationship with an academic advisor who believes in the ability of the student with LD to succeed is one of the most important components of the services provided to students with exceptionalities (Vogel & Adelman, 1992; Vogel, Hruby, & Adelman, 1993). For example, one respondent in this study took the opportunity to thank the Disability Resource Centre for their "support and assistance." This student felt that she/he "could not accomplish [her/his] goal without the help of Disability Resource Centre." Another respondent wrote "the accommodation and

support I get from our disabled student services have been invaluable. I definitely would not still be here without them." Unfortunately, it is difficult to determine the extent to which accommodations contribute to the academic success of students with LD at the post-secondary level as there is no national requirement in Canada that institutions collect and report on the status of students with disabilities (CADSPPE, 1999).

Study Limitations

In order to make this empirical study achievable, there were variables that were excluded or not addressed. For practical reasons, this study was limited to a convenience sample with a relatively small sample size, making the generalizability of findings problematic. Participation in this study was limited to students who have self-identified themselves and accessed services for students with learning disabilities at their university. Nine students indicated that they had attention deficit but no learning disability. Academic resilience for the purposes of this research was defined as a quality of students with LD who were currently completing university degrees or had recently finished a program of studies. There were also potentially influential variables that were not directly examined in this study such as IQ, social-economic status, and the severity of the learning disability.

Conclusion

School achievement is increasingly important in today's exceedingly literary and numerical society, and the completion of some form of postsecondary schooling contributes to ultimate success in the workplace. However a learning disability is a risk factor that is linked statistically to a poor academic outcome (American Psychiatric Association, 2000; Barga, 1996). This study identified several factors that may influence the pursuit of a university education and by definition enhance positive adaptation. However, this study cannot pretend to give a comprehensive examination of the factors

that influence the pursuit of a university education; rather the goal of this study was to expand the present knowledge of the factors that influence academic resilience. Therefore in order to prove the validity of these findings further study is necessary.

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Appendix A: Pursuing a University Education: Questionnaire

Due to the challenges that students with disabilities face throughout their schooling, few pursue a post-secondary education. Therefore it is quite an achievement for a student with learning disabilities to attend university. This questionnaire examines those factors that may have contributed to you pursuing a university education. If you have a learning disability, please take 15-25 minutes to respond to this questionnaire

The statements in the questionnaire are actual statements spoken by students with learning disabilities. Please respond to each item as honestly and accurately as possible. Please note the questionnaire can be submitted only once. Therefore please do not EXIT the questionnaire until you have completed all questions.

Thank-you for taking the time to complete this questionnaire. Your input is appreciated.

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DEMOGRAPHICS

The following questions deal with factual information.

1

Age (e.g. "20" for 20 years old):

2

Gender:

Male	Female
1	2

3

Are you working on a university degree?

Yes	No
1	2

If you answered YES to question 3, please proceed to question 4. If you answered NO to question 3, please go to question 7.

4

Degree currently working on:

Bachelor	Masters	PhD
1	2	3

5

Faculty currently enrolled in:

6

Year of Program:

1	2	3	4	5	6
1	2	3	4	5	6

7

Highest degree completed:

None Completed Yet	Bachelor	Masters	PhD
1	2	3	4

8

Faculty degree was completed in?

9

Total number of years in university (including this year):

1	2	3	4	5	6	7	8	9	10 plus
1	2	3	4	5	6	7	8	9	10

10

Have you been identified as having a learning disability?

Yes	No
1	2

11

Have you been identified as having attention deficit?

Yes	No
1	2

SUBMIT

Survey Page 1

PERSONAL RESOURCES

People face the challenges of a learning disability in many ways. How well do the following statements relate to how you managed your learning disability and the factors that influenced you in your pursuit of a university education?

Please use the following scale:
1 -does not describe me at all
2 -describes me to a slight degree
3 -describes me to a moderate degree
4 -describes me to a large degree

12

If I need something done, I'll find a way of getting it done:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

13

I have a drive to see things through:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

14

I want to do things that are challenging:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

15

I am very persistent; I just keep on trying and trying:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

16

I wanted to prove that all those people who thought students with a learning disability couldn't make it to university were wrong:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

17

The world around me made me think that I was not good enough. I wanted this degree to prove them wrong:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

18

I wanted to prove that I could do what every "normal" person could do:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

19

I always felt inside that I was smarter than people gave me credit for:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

20

I knew there would be difficulties because I have learning disabilities, but I would not let the difficulties hold me back:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

21

I feel there is something in life I am meant to do:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

22

I want to become someone:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

23

I have always had a goal in mind:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

SUBMIT

Survey Page 2

ADJUSTMENTS MADE

24

I work harder than most other students:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

25

I decrease my social life to find the time to study:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

26

I have taken the same courses over again:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

27

I have to spend more time than most students to learn something:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

28

I have to be very organized to get in all the study time I need:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

SUBMIT

Survey Page 3

CONTRIBUTION

29

I've always wanted to help people:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

30

I want to use my learning disability to help others:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

31

I want to share what I have been able to accomplish by showing other people with learning disabilities that it is possible to get a university education:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

32

I feel that if I don't help others, I'm almost wasting what I've been given and what I've gone through:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

33

I would like to tell other students with learning disabilities that, if I can do it, you could do it too:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

34

I would like to be a mentor to other students with learning disabilities:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

35

I want to show that that you can have a challenge but you should never let that hold you down:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

36

I am too busy to help others:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

37

I want to inspire other students with learning disabilities:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

38

I am involved in volunteering:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

39

I want to be a role model for other students with learning disabilities:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

SUBMIT

MENTORS

40

I had a teacher who was a role model for me:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

41

A teacher/professor was genuinely interested in me:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

42

No one inspired me o go to university; I did it on my own:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

43

If it weren't for the teachers that helped me, I would not be here:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

44

A teacher inspired me to go to university:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

45

I had a mentor who inspired me to go to university:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

46

My friend(s) persuaded me to apply to university:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

47

I have very supportive friends:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

48

I've made it this far because of my mom

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

49

My parents helped me much more than anybody else:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

50

I don't have a supportive network:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

51

My father has been very supportive of me:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

52

It was basically a counsellor/psychologist that helped me see that I was capable of going to university:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

53

I find people that are willing to help me:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

54

I have a supportive network that helps me to succeed:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

SUBMIT

FEELINGS ABOUT LEARNING DISABILITIES

55

I am not ashamed of having a learning disability:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

56

I have learned to compensate for my learning disability:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

57

I want people to know that I have a learning disability and that I can be successful:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

58

The fact that I'm in university has given me more confidence to tell others that I have a learning disability:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

59

I see having a learning disability as positive:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

60

I only tell people about my learning disability on a "need to know" basis:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

61

My creativity, I think, in some ways comes with my disability:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

62

I think having a learning disability changes the way you see the world:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

63

Having a learning disability gravitates you toward creative endeavours:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

64

There is nothing positive about having a learning disability:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

65

Having a learning disability has given me a greater understanding of how other minorities are treated:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

66

I don't look at my disability as a disability but rather a challenge that I have to overcome to get to where I want to be:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

67

I never considered my learning disability an issue; I worked my way around it, and went from there:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

68

I think having a learning disability makes me stronger:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

SUBMIT

ENTRANCE OPTIONS(Transfer Programs, Creative Ability, Upgrading, College Skills)

The following statements address the experiences that you may have had or are currently having at university.

Please answer either YES or NO for the following statements.

69

I was in a university transfer program:

Yes	No
1	2

70

I used a talent I had, such as art, music, or dance, to get into the university:

Yes	No
1	2

71

I got into university as a mature student:

Yes	No
1	2

72

I had to upgrade before applying to college or university:

Yes	No
1	2

73

I went to a smaller college first before coming to university:

Yes	No
1	2

SUBMIT

Survey Page 7

ACCOMMODATIONS

74 I took/take a reduced course load in university:

Yes	No
1	2

75 I use assistive technology:

Yes	No
1	2

76 I had/have accommodations such as extra time, note takers, or quiet room:

Yes	No
1	2

77 I have learned about learning strategies:

Yes	No
1	2

78

Being assessed identified my strengths and weaknesses:

Yes	No
1	2

79

Student support services for students with disabilities offered me emotional support:

Yes	No
1	2

80

I didn't/don't receive any accommodations for my learning disability:

Yes	No
1	2

81

I took/will take longer than the average student to complete my degree:

Yes	No
1	2

SUBMIT

CHALLENGES

Having a learning disability can be challenging. How well do these statements describe the challenges you have experienced or continue to experience?

Please use the following scale:

Please use the following scale:
1 -does not describe me at all
2 -describes me to a slight degree
3 -describes me to a moderate degree
4 -describes me to a large degree

82

Other people seem to catch on faster than I did:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

83

I had/have difficulty with reading:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

84

While at school I just thought that I wasn't very smart:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

85

I always felt that if I could just work hard enough I would do well, but I just couldn't work hard enough:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

86

I was told that I needed to rethink my goals because I would never go to university

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

87

I had/have no problems at school:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

88

I was not taught any of the same curriculum as the "regular" students:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

89

I had/have lots of trouble with spelling:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

90

I've always thought there was something wrong:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

91

I was frustrated in school because I knew what was going on but my grades didn't reflect that:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

92

I needed more time to comprehend and process information:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

93

I have been told that I was not doing well in school because of lack of effort or motivation:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

94

I have been told that I would not amount to anything:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

SUBMIT

SOCIAL EMOTIONAL CHALLENGES

95

I felt anxiety when I was called on to work at the blackboard or in front of the class:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

96

I was self-conscious about how slowly I read:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

97

Sometimes I feel/felt stupid or ashamed because I have a learning disability:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

98

I have always had friends:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

99

I had/have a difficult time in social situations:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

100

I was the class clown:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

101

I had/have emotional difficulties such as depression or anxiety:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

102

I had to stay in during recess or at lunchtime to complete schoolwork, or for misbehaving:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

103

I was always the kid who was not picked by the other kids for group work or play:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

104

I was sometimes in trouble in school:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

105

I think I was seen as the outcast in school:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

106

I was bullied/picked on at some point in school:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

107

I had/have no emotional problems:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

108

Other students in the school teased me because of my learning disabilities:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

109

Some teachers saw me as the 'stupid kid' in the class:

does not describe me at all	describes me to a slight degree	describes me to a moderate degree	describes me to a large degree
1	2	3	4

MY LIFE AS A METAPHOR

109

If you like, describe your life as a metaphor. For example, my life is like a garden. There are times when it is dormant and nothing grows, yet other times it is rich with colour and life. There are times when it cold and raining and others when it is sunny and warm.

SUBMIT

COMMENTS

111

Is there anything else you would like to add?

SUBMIT

Appendix B: E-mail to Participants

Hello,

My name is Ursula Gardynik, and I am a doctorial student at the University of Alberta.

I am conducting a survey on the factors that may have contributed to your decision to pursue a university education. Given that 40 to 60% of students with learning disabilities do not complete high school, pursuing a university education is an impressive achievement.

I am interested in individuals:

- with learning disabilities, or with both learning disabilities and attention deficit, who are currently pursing a university degree
- or individuals with learning disabilities, or with both learning disabilities and attention deficit, who have completed a university degree.

Please take about 15 to 25 minutes to complete the questionnaire by clicking on the Internet address provided.

http://www.zoomerang.com/survey.zgi?p=WEB2269LY4J3AS

The statements in the questionnaire are actual statements made by students with Learning disabilities.

Your anonymity is guaranteed. There will be no way to identify you when you submit your responses because your email address will not be included.

Thank-you. I appreciate your input.

Ursula Gardynik

The plan for this study has been reviewed for its adherence to ethical guidelines and approved by the Faculties of Education Extension and Augustana Research Ethics Board (EEA REB) at the University of Alberta, and the Research Ethics Board at the University of Calgary. For questions regarding participant rights and ethical conduct of research, contact the Chair of the EEA REB at (780) 492-3751.

Appendix C: Demographic Data

Table C1: Age

18	19	20	21	22	23	24	25	26	27	28
4	4	6	4	8	7	5	6	5	3	2
5.71	5.71	8.57	5.71	11.43	10.00	7.14	8.57	7.14	4.29	2.86
29	**30**	**31**	**32**	**36**	**38**	**40**	**42**	**51**		**n**
3	2	3	1	2	1	1	2	1		70
4.29	2.86	4.29	1.43	2.86	1.43	1.43	2.86	1.43		

Table C2: Gender

Male	Female	n
35	39	74
47.30	52.70	

Table C3: Are You Working on a University Degree?

1 (Yes)	2 (No)	n
60	14	74
81.08	18.92	

Table C4: Degree Currently Working On

Bachelor	Master's	n
57	3	60
95	5	

Table C5: Faculty Currently Enrolled In?

Arts	Agriculture	Science	Kinesiology	Comm	Social Science	Education
15	3	7	3	2	3	10
24.59	4.92	11.48	4.92	3.28	4.92	16.39

Engineering	Medicine	Law	Open Studies	Business		
9	2	1	1	5		n
14.75	3.28	1.64	1.64	8.20		61

Table C6: Year of Program

1	2	3	4	5	n
10	13	18	17	3	61
16.39	21.31	29.51	27.87	4.92	

Table C7: Degree Completed

Bachelor	Master's	PhD	n
22	1		74
29.73	1.35		

Table C8: Faculty Degree Was Completed In

Arts	Education	Engineering	Risk Mgmt	Social S
10	5	2	1	1
38.46	19.23	7.69	3.85	3.85

Medicine	Native Studies	Nursing	Science	n
1	1	1	4	26
3.85	3.85	3.85	15.38	

Table C9: Total Number of Years in University

1	2	3	4	5	6	7	8	9	10	n
7	6	12	14	13	7	5	3	2	3	72
9.72	8.33	16.67	19.44	18.06	9.72	6.94	4.17	2.78	4.17	

Table C10: Identified as Having a LD

1 (Yes)	2 (No)
74	0
100	0

Table C11: Determination as a Personal Quality

	1	2	3	4	n	Mean	Median	Mode	Std dev
Question 12	1	5	26	42	74	3.47	4	4	0.69
	1.35	6.76	35.14	56.76					
Question 13	1	13	27	33	74	3.24	3	4	0.79
	1.35	17.57	36.49	44.59					
Question 14	1	13	27	33	74	3.24	3	4	0.79
	1.35	17.57	36.49	44.59					
Question 15	3	11	22	38	74	3.28	4	4	0.87
	4.05	14.86	29.73	51.35					

Table C12: Proving Others Wrong

	1	2	3	4	n	Mean	Median	Mode	Std dev
Question 16	23	14	10	27	74	2.55	2.5	4	1.27
	31.08	18.92	13.51	36.49					
Question 17	24	17	8	24	73	2.43	2	1	1.24
	32.88	23.29	10.96	32.88					
Question 18	23	8	15	27	73	2.63	3	4	1.26
	31.51	10.96	20.55	36.99					

Table C13: Belief in Self

	1	2	3	4	n	Mean	Median	Mode	Std dev
Question 19	12	16	19	26	73	2.8	3	4	1.09
	16.44	21.92	26.03	35.62					
Question 20	4	14	28	28	74	3.08	3	3	0.88
	5.41	18.92	37.84	37.84					
Question 21	6	5	11	52	74	3.47	4	4	0.93
	8.11	6.76	14.86	70.27					

Table C14: A Goal

	1	2	3	4	n	Mean	Median	Mode	Std dev
Question 22	4	3	18	49	74	3.51	4	4	0.8
	5.41	4.05	24.32	66.22					
Question 23	4	12	29	29	74	3.12	3	3	0.86
	5.41	16.22	39.19	39.19					

Table C15: Working Harder

	1	2	3	4	n	Mean	Median	Mode	Std dev
Question 24	7	9	21	37	74	3.18	3.5	4	0.98
	9.46	12.16	28.38	50.00					
Question 25	7	11	20	36	74	3.14	3	4	0.99
	9.46	14.86	27.03	48.65					
Question 26	35	16	8	15	74	2.04	2	1	1.17
	47.30	21.62	10.81	20.27					
Question 27	4	8	21	41	74	3.33	4	4	0.87
	5.41	10.81	28.38	55.41					
Question 28	4	9	21	40	74	3.31	4	4	0.88
	5.41	12.16	28.38	54.05					

Table C16: Helpfulness

	1	2	3	4	n	Mean	Median	Mode	Std dev
Question 29	5	13	27	28	73	3.06	3	4	0.91
	6.85	17.81	36.99	38.36					
Question 30	20	18	19	16	73	2.42	2	1	1.1
	27.40	24.66	26.03	21.92					
Question 31	19	17	16	22	74	2.55	3	4	1.16
	25.68	22.97	21.62	29.73					
Question 32	26	18	14	15	73	2.23	2	1	1.14
	35.62	24.66	19.18	20.55					
Question 33	21	16	17	20	74	2.48	2.5	1	1.16
	28.38	21.62	22.97	27.03					
Question 34	21	22	14	17	74	2.36	2	2	1.12
	28.38	29.73	18.92	22.97					
Question 35	10	15	22	27	74	2.89	3	4	1.04
	13.51	20.27	29.73	36.49					
Question 36	22	22	16	14	74	2.29	2	1	1.08
	29.73	29.73	21.62	18.92					
Question 37	17	24	14	18	73	2.45	2	2	1.09
	23.29	32.88	19.18	24.66					
Question 38	19	17	20	18	74	2.5	3	3	1.11
	25.68	22.97	27.03	24.32					
Question 39	19	22	19	14	74	2.37	2	2	1.06
	25.68	29.73	25.68	18.92					

Table C17: Teacher/Professors

	1	2	3	4	n	Mean	Median	Mode	Std dev
Question 40	23	17	16	18	74	2.39	2	1	1.16
	31.08	22.97	21.62	24.32					
Question 41	18	18	16	22	74	2.56	3	4	1.15
	24.32	24.32	21.62	29.73					
Question 42	18	26	11	19	74	2.41	2	2	1.11
	24.32	35.14	14.86	25.68					
Question 43	30	20	14	10	74	2.05	2	1	1.06
	40.54	27.03	18.92	13.51					
Question 44	55	13	4	2	74	1.36	1	1	0.7
	74.32	17.57	5.41	2.70					
Question 45	36	11	16	10	73	2.01	2	1	1.14
	49.32	15.07	21.92	13.70					

Table C18: Friends

	1	2	3	4	n	Mean	Median	Mode	Std dev
Question 46	55	13	4	2	74	1.36	1	1	0.7
	74.32	17.57	5.41	2.70					
Question 47	7	21	26	20	74	2.79	3	3	0.94
	9.46	28.38	35.14	27.03					

Table C19: Parents

	1	2	3	4	n	Mean	Median	Mode	Std dev
Question 48	14	17	19	24	74	2.71	3	4	1.1
	18.92	22.97	25.68	32.43					
Question 49	14	8	21	31	74	2.93	3	4	1.13
	18.92	10.81	28.38	41.89					
Question 50	39	20	10	5	74	1.74	1	1	0.93
	52.70	27.03	13.51	6.76					
Question 51	17	12	19	26	74	2.72	3	4	1.16
	22.97	16.22	25.68	35.14					

Table C20: Others

	1	2	3	4	n	Mean	Median	Mode	Std dev
Question 52	57	11	5	1	74	1.32	1	1	0.65
	77.03	14.86	6.76	1.35					
Question 53	8	21	29	15	73	2.69	3	3	0.91
	10.96	28.77	39.73	20.55					
Question 54	7	17	24	26	74	2.93	3	4	0.97
	9.46	22.97	32.43	35.14					

Table C21: Positive Perceptions

	1	2	3	4	n	Mean	Median	Mode	Std dev
Question 55	9	17	21	27	74	2.89	3	4	1.03
	12.16	22.97	28.38	36.49					
Question 56	1	9	24	39	73	3.38	4	4	0.75
	1.37	12.33	32.88	53.42					
Question 57	16	19	19	20	74	2.58	3	4	1.1
	21.62	25.68	25.68	27.03					
Question 58	26	17	14	16	73	2.27	2	1	1.16
	35.62	23.29	19.18	21.92					
Question 59	32	17	10	15	74	2.1	2	1	1.16
	43.24	22.97	13.51	20.27					
Question 60	4	14	25	31	74	3.12	3	4	0.89
	5.41	18.92	33.78	41.89					
Question 61	14	15	17	28	74	2.79	3	4	1.13
	18.92	20.27	22.97	37.84					
Question 62	8	16	14	36	74	3.05	3	4	1.06
	10.81	21.62	18.92	48.65					
Question 63	25	18	11	19	73	2.32	2	1	1.19
	34.25	24.66	15.07	26.03					
Question 64	30	24	15	4	73	1.9	2	1	0.9
	41.10	32.88	20.55	5.48					
Question 65	17	24	13	19	73	2.46	2	2	1.11
	23.29	32.88	17.81	26.03					
Question 66	14	12	17	31	74	2.87	3	4	1.15
	18.92	16.22	22.97	41.89					
Question 67	9	19	20	25	73	2.83	3	4	1.03
	12.33	26.03	27.40	34.25					
Question 68	14	14	16	28	72	2.8	3	4	1.15
	19.44	19.44	22.22	38.89					

Table C22: Transfer Program

	1(Yes)	2(No)	n	Mean	Median	Mode	Std dev
Question 69	29	45	74	1.6	2	2	0.48
	39.19	60.81					

Table C23: Creative Abilities

	1(Yes)	2(No)	n	Mean	Median	Mode	Std dev
Question 70	16	58	74	1.78	2	2	0.41
	21.62	78.38					

Table C24: Upgrading/Mature Student

	1(Yes)	2(No)	n	Mean	Median	Mode	Std dev
Question 71	22	52	74	1.7	2	2	0.45
	29.73	70.27					
Question 72	23	51	74	1.68	2	2	0.46
	31.08	68.92					

Table C25: Smaller College

	1(Yes)	2(No)	n	Mean	Median	Mode	Std dev
Question 73	31	43	74	1.58	2	2	0.49
	41.89	58.11					

Table C26: Accommodations

	1(Yes)	2(No)	n	Mean	Median	Mode	Std dev
Question 74	46	28	74	1.37	1	1	0.48
	62.16	37.84					
Question 75	36	38	74	1.51	2	2	0.49
	48.65	51.35					
Question 76	72	1	73	1.01	1	1	0.11
	98.63	1.37					
Question 77	60	14	74	1.18	1	1	0.39
	81.08	18.92					
Question 78	61	12	73	1.16	1	1	0.37
	83.56	16.44					
Question 79	42	32	74	1.43	1	1	0.49
	56.76	43.24					
Question 80	3	71	74	1.95	2	2	0.19
	4.05	95.95					
Question 81	49	25	74	1.33	1	1	0.47
	66.22	33.78					

Table C27: Challenges									
	1	2	3	4	n	Mean	Median	Mode	Std dev
Question 82	13	9	29	22	73	2.82	3	3	1.05
	17.81	12.33	39.73	30.14					
Question 83	15	9	17	33	74	2.91	3	4	1.17
	20.27	12.16	22.97	44.59					
Question 84	28	19	14	12	73	2.13	2	1	1.1
	38.36	26.03	19.18	16.44					
Question 85	16	17	18	23	74	2.64	3	4	1.13
	21.62	22.97	24.32	31.08					
Question 86	45	9	7	13	74	1.83	1	1	0.81
	60.81	12.16	9.46	17.57					
Question 87	41	21	10	2	74	1.63	1	1	0.81
	55.41	28.38	13.51	2.70					
Question 88	55	6	7	5	73	1.47	1	1	0.92
	75.34	8.22	9.59	6.85					
Question 89	20	15	10	29	74	2.64	3	4	1.24
	27.03	20.27	13.51	39.19					
Question 90	10	30	14	20	74	2.59	2	2	1.02
	13.51	40.54	18.92	27.03					
Question 91	16	16	19	23	74	2.66	3	4	1.13
	21.62	21.62	25.68	31.08					
Question 92	5	11	16	42	74	3.28	4	4	0.95
	6.76	14.86	21.62	56.76					
Question 93	29	14	10	20	73	2.28	2	1	1.24
	39.73	19.18	13.70	27.40					
Question 94	40	14	3	17	74	1.95	1	1	1.22
	54.05	18.92	4.05	22.97					

Table C28: Social-Emotional Challenges

	1	2	3	4	n	Mean	Median	Mode	Std dev
Question 95	9	17	14	33	73	2.97	3	4	1.08
	12.33	23.29	19.18	45.21					
Question 96	21	12	10	30	73	2.67	3	4	1.27
	28.77	16.44	13.70	41.10					
Question 97	16	9	20	27	72	2.8	3	4	1.16
	22.22	12.50	27.78	37.50					
Question 98	12	13	17	31	73	2.91	3	4	1.11
	16.44	17.81	23.29	42.47					
Question 99	25	18	19	11	73	2.21	2	1	1.04
	34.25	24.66	26.03	15.07					
Question 100	44	9	11	7	71	1.73	1	1	1.04
	61.97	12.68	15.49	9.86					
Question 101	17	10	18	28	73	2.78	3	4	1.18
	23.29	13.70	24.66	38.36					
Question 102	34	17	10	11	72	1.97	2	1	1.1
	47.22	23.61	13.89	15.28					
Question 103	29	23	8	13	73	2.06	2	1	1.1
	39.73	31.51	10.96	17.81					
Question 104	36	11	13	11	71	1.98	1	1	1.14
	50.70	15.49	18.31	15.49					
Question 105	34	17	6	16	73	2.05	2	1	1.19
	46.58	23.29	8.22	21.92					
Question 106	17	18	13	23	71	2.59	3	4	1.16
	23.94	25.35	18.31	32.39					
Question 107	32	19	12	10	73	2	2	1	1.07
	43.84	26.03	16.44	13.70					
Question 108	51	13	2	6	72	1.48	1	1	0.89
	70.83	18.06	2.78	8.33					
Question 109	38	16	8	11	73	1.89	1	1	1.1
	52.05	21.92	10.96	15.07					

Appendix D: Life as a Metaphor

My life is like an iceberg. It looks beautiful and magnificent form the surface, but upon further exploration into the depths of the water, it greatness and potential is realized and far exceeds expectation. People see me as being an overachiever, someone who is in the 95th percentile and achieves at the highest standard. But inside I know that what they see is only the tip of the iceberg, only 10% of my true potential. My disability and attention problems are the water that surrounds the iceberg, hindering the full splendour and power of the iceberg form being displayed.

My life is like mountain climbing. It is almost always an upwards climb. There are some easy points but things will never stay easy for long, not if you ant to move on with your life. The weather may change, making the steep slope of university hard and dangerous, but I have good tools and I must remember to use them and stay on task. I must also remember why I am doing this or I will lose my will to climb. I can do this by simply stopping and looking at the view. It will give me a better appreciation of where I am and an idea of where I want to be.

My brain is a large warehouse that is efficient, stable and always wanting to store something new. But when asked to write down my inventory I have to squeeze everything inside, out through a pin hole. Nothing ever comes out the same way I picture or say it. It just seems to blow to wall out under the pressure and spill out the contents in no immediate order.

My life is like living in a bottle. I can see all the things that I can do but I have to get out the bottle first by getting the education I need.

I don't know any good metaphors but I have always believed, "The Pursuit of Knowledge is the Test Ground of Freedom" whether for better or worse this always seems to be the case in my life.

I see life as happiness; it makes up in height what it lacks in length.

My life is like taking the absolute longest hardest way to get anywhere (the scenic route).

My life is like a jigsaw puzzle. For a long time, some of the pieces were missing. Recently, I found them under the couch. For this reason, this questionnaire has been difficult to answer because sometimes none of the answer options applied strangely enough.

I was the ugly ducking that at some point in my life flourished not only to be like everyone else, but that and more so. I became a phenomenon.

My life is like a race car, always trying to win the race, and never taking time to look back and hold regrets.

The above metaphor is good one for me.

Like a star collecting enough energy for chance to shine brightly.

When I am happy, I can be happy; when I am not then I can by very sad. That is probably not a metaphor, but is true.

My life is like a roller coaster, always up and down, constantly going, never stopping, sometimes fast and sometimes slow.

The greatest irony in life is that you don't know where you're heading, even despite your own conscious thinking.

I was the seed that was scattered upon the road and trampled; yet only to be carried to a pile of crap that nurtured me to be the tree I am today.

Life is how you look at it.

My life is like the seasons, each season can only do what it's season is supposed to do there can be no crossover, only one thing at a time successfully with total excellence. Any distractions form that one thing cause chaos and upheaval. Like the seasons I can do many wonderful things, but only one at a time, I must have total focus on one thing to achieve it and to stay happy and positive. More than one task or goal and I become overwhelmed and under productive. I have to maintain m life in sections like the seasons. For instance I cannot manage to work while in school and have any social interactions.

My life has been a journey, complete with all kinds of ups and downs of varying degrees.

My life is like a car with a powerful engine, but with really small tires. I know I can do a lot of things but just can't grip onto the project like me peers.

My life is like a roller coaster, filled with ups and downs!

My life is like random colours, always different, sometimes complimenting each other and other times in contrast with one another.

My life is like living as a beautiful size 10 shoe worn by a size 12 foot. I like being the shoe but the foot would prefer it I were a bit bigger (faster at learning) never the less I am worn because I am a nice shoe and but I often don't feel accepted because I am a bit too small. I like being the shoe but it is somewhat uncomfortable and I often yearn for a foot that will fit, or to grow two more sizes so I won't feel stretched so much, and so the foot will appreciate me for what I am, a happy size ten shoe.

My life has been very tough in many aspects but finally after years I started to believe that all this happened to make me emotionally stronger and to understand how people with emotional problems feel. I think I am meant to be a leader who helps these individuals to be their best.

I figure I'm just taking the scenic route in life but that's the path of an artist to take the time and reflect and make people understand things they miss or aren't as sensitive to.

Ya, not so good at the metaphors. My life is like an on going race I never stop running.

My life is like the Shepard boy in "The Alchemist" I don't know if I find treasure but I am going dye trying.

My life is like a horror film. It started off seemingly normal, then took a shap and dramatic turn at the beginning. There was a lot of creeping through hallways and frightening monsters that would pop out of nowhere. Between these parts, there was a lot of pointless dialog that nobody will remember when they leave the theatre because they'll be focused on the part where the werewolf totally bit that one guy's head off. And at the end of the movie, the bad guy was defeated but it was left pretty open that he could come back for another couple of sequels if the movie made some money.

My life is like a computer operating system. It boots up every morning and runs its daily routines. Every so often, it gets a bug and energy is spent on "debugging" then it just chugs along and works and obtains input, exchanges data and accepts upgrades. When things start to slow down, I delete old programs and obsolete files and degage the hard drive. I am mindful to back up my system in case of crash and am always wanting to do future upgrades and increase my memory (in order to do more complex and creative tasks)...the possibilities are endless.:)

Further Comments

The biggest problem that I had is that I wasn't diagnosed until I was in 3rd year university and already in academic probation. I think this has caused more social problems because I questioned myself more than anyone else because I never questioned whether I had a disability or not.

My learning disability has impacted my direction in university. Because I have such a hard time with reading I stuck to mathematical areas of study.

Also I have been gifted with a very high intelligence and thus I believe that this is the reason that university has not been an issue for me.

I would like to mention that I am gifted, ADD, LD. This makes for a very complicated attitude towards school. A lot has always been expected of me, if only by myself. Unfortunately, I find schoolwork an endless struggle. This is very discouraging.

It is frustrating when you work your tail off to get good/excellent marks and then other students and professors think that the only reason why you do so well is because you got extra time to write the exam. It is like all the effort you put into getting those marks is not valued it is also very difficult for both students and professors to understand why you have a disability if you are getting good marks, putting you at the top of the class. It is very hard to explain to them that you really do have a learning disability and how it affects you. Therefore generally I will only tell people about m disability if they need to know because otherwise if I do better than them on a test they dismiss it because "you got extra time" whether I studied harder or not. It is like your extra effort is not recognized.

I find that much of the time my instructors don't understand why I am having difficulty grasping on to the subject matter and what's being taught even though they are aware

that I have learning disabilities. I think that many of them don't really understand what "learning disabilities" mean unless you are obviously disabled in someway (i.e. physically. They don't, if profs were properly educated about learning disabilities and what it means to have them, so that they understand that I might look like everyone else and sound like everyone else but the difficulties I face are very real and there is a very legitimate reason why I am struggling.

Although there are critics against students getting extra time, without it I wouldn't be where I am now. Perhaps they just don't understand what its like.

I lived in Europe form 4th grade through 12th grade. There was a difference in teaching in France, as well as a difference in teaching in Belgium. I learned to deal with the systems of education and was more successful in Belgium as there was much more of a support given by the teachers. My parents were my real support over the years.

I think that I am not your typical student with a learning disability. My father has a Phd and my mother has a Masters. Further more my oldest brother is currently working on his masters and I have a twin brother without a disability who is completing his undergraduate degree this year. I just ready slow and take longer to complete essay exams.

I was not diagnosed with a learning disability until I was in university because I found it impossible with the course load and I was working so much harder than everyone else to get a B average with the course load.

I wrote it in my comments to the metaphor question. It seems as if the questionnaire was designed in such a way that certain assumptions were made about people with disabilities, so that I din not really find myself and the challenges I faced/face in the questions that were asked. But thanks for this opportunity anyway.

No

111 questions is a lot of questions!

NO!

I have taken a lighter course load, but that is only because mechanical engineers are suppose to have 2-3 semesters with seven classes. I have chosen to have a social life and take 1 extra semester.

I have never felt stupid or less of a person or made so by others, however, I have aspired to improve a normal or above normal intelligence level. I always think that I am held back because of y disability, such as jumbling words together or slurring words while talking, not so much that anybody notices, however, I notice so that is what counts.

Financial stress becomes an issue because it takes longer for a student with a disability to complete a degree.

Good luck with this survey. I'd like to see the end result, but I don't know where to look, or your name, so hopefully someone is SSDS might know, all the best.

I think there is a lot more change in how people with learning disabilities are viewed. However, we still have a far way to go, as I have found that people who are not educated to what a learning disability is still view it as lack of motivation, reason to slack off or get special treatment and sometimes I have found teachers to treat people with learning disabilities like special people, talking slow to them and treating them as if they are not so smart. Like anything, there is always groups of people that will never change there opinions and ideas, no matter how much information is presented to them. All we can do is educate and focus on the strengths as opposed to weaknesses.

N/a

I have a learning disability in the subject of languages and I am gifted within the area of mathematics.

My reading disability and ADD has caused school and life to be much more difficult them others. But because of this and my high IQ I am able to figure things out faster then most others.

Yes, I got into university originally on my own (a smaller college, kick out once for my marks and almost a second time) but eventually was able to get more focused because of sports to attend university. As my degree has gone on, I find it harder and harder to maintain balance. To be honest I am a total nightmare to live with when in school because I have to do so much and often do not cope very well. School is an issue for me in a way that work is not because it is never ending. There is always more to do, reading, research, studying and review. With work you are done when you are done. There is little or no work to go home with you. I find managing school with a job is not realistic, but it is not realistic to not work with the state of student loans, so I feel trapped. with only one more year I am on the verge of quitting because I cannot seem to get enough time in the day to train full time for my sport, attend class, work and do well academically. I did not ever find that people were unsupportive, I just don't think anyone can fathom how hard it is compared with the experience of regular student. All of my friends have had a blast in university, and it has been the worst years of my life. No social life, no money and constant stress and pressure to perform. If it was not for my athletic career, I don't know if I would have stayed. Also the accommodations and support I get from our disable student services have been invaluable. I defiantly would not still be here with out them.

I would like to take this opportunity to thank you for support & assistance me to pursue my dream. I could not accomplish my goal without the help of Disability Resource Centre. In addition, I would like to contribute to the community. For example, I want to help learning disability people like me.

No.

Being diagnosed with a learning disability in university was a complete relief for me. I no longer continued to struggle with learning as much as in the past and I finally had an answer. In the past I had taken intelligence test after intelligence test finished a test in

elementary or high school. But when I went thought the testing at university it was very different and I was able to obtain the answers that I needed. Its been a tough road to get through university and there was many times when I wanted to quit and I felt like I couldn't make it but I hung in there and now I'm going to graduate this year. YEAH! It feels good!

My parents were the biggest factors in my life and gave me the confidence to go on.

I love having a learning disability.

My understanding that I am worth something because I am designed and was planned by a personal creator who loves and values each and every creation, and chose to express that relationship through the person of Jesus Christ 2000years ago by living and dying in service to humanity and submission to the creator, helps me find purpose, value and motivation to fulfil what the Creator planned for me not what people say I may or may not do.

No

No

I tried university when I first graduated from High School but dropped out. I blame that on a lack of focus rather then my learning disability.

In the future it would be nice to have a more detailed indication system. There didn't seem to be any mid-point between me simply disagreeing or violently disagreeing. This survey is also disturbingly biased in places and appears to put a focus on equating being bullied with having a learning disability.

I did not know I had a learning disability until I started at the University and a friend suggested that I should be assessed. Before I knew, my grades were averaging between 5 and 6. After my assessment and learning strategies they were between 7 and 8 by the time of my graduation. I took time off after my bachelors but am going back next fall to get my masters degree. I have ADD and while I'm not open to telling people about it, because they see it as a "disability" or a "phase" that kids go through, I see it as just a different way of learning and not a disability at all.

This may sound crazy, but I always knew there was something "wrong' with me. I always felt that I could be the top of the class but could not understand why I was not there (there was just something that was weighting me down). The reason I got test in the first place, which was when I was already a student at the University was because I said to my Psychiatrist "I should be getting 9's." I will always remember the look on her face; she just stared wide-eyed at me and said nothing! After a few minutes of awkward silence she said "Well, maybe we should have to test for a learning disability." I'm not like the others with an LD. At SSDS they had this class where you would talk about strategies that worked for you. I never found this helpful. To be quick frank, I never really cared what worked for others. If something was wrong I found a way myself to make it better. In fact, I could never relate to the students with LD's. I never found it useful to talk about what it was like to have an LD with other LD people. I felt like screaming to them "

It's hard, it always will be so get over it! I always felt like these session were a whine fest. Just my rant.

Thanks Ursula!
All the best to you :)

CHAPTER 5:

CONCLUSION

Summary of the Research

The objective of this research was to add to the educational community's understanding "of students at risk: students who by all rights shouldn't have succeeded, but did" (Peshkin, 1993, p. 25), while identifying the factors in their lives that influenced them to pursue a university education. This research used a mixed method paradigm in that both qualitative and quantitative methodologies were used. The qualitative study attempted to gain a clearer and more in-depth understanding of the person based and environmental variables that are associated with resilience (Germezy, 1988). The data, in the form of storied narratives, were analyzed to identify the common themes. Seven themes were identified: determination, working harder, helpfulness, positive perceptions supporters, diverse paths to university, and accommodations. These themes formed the foundation for a survey instrument (Pursing a University Education) that was utilized to determine how prevalent these themes were in a larger sample. The quantitative study was done to confirm and extend the findings from the qualitative study to a wider sample. Using a survey made the investigation of the prevalence of the generated themes feasible. The importance of the themes found in the qualitative component of this study was confirmed by the quantitative survey study.

Relation to Previous Research

The results of these studies are congruent with much of the literature on the protective factors that led to positive adaptation of students with learning disabilities. Furthermore, the themes found in the interviews were confirmed through the quantitative study. The following will look at each theme separately and synthesize the findings from both components of the research.

Determination

Determination appears to be a very important factor in academic resilience. A majority of participants saw their determination as a personal quality that propelled them toward the achievement of a goal. Respondents to the questionnaire also perceived themselves as determined. Ninety-two percent felt that if they needed something done, they would find a way of getting it done. Interestingly, eighty-one percent wanted to do things that were challenging even if it meant they would need to keep on trying and trying. Hall, Spruill, and Webster (2002) also found that college students with learning disabilities seem to be very similar to their peers without a disability in terms of affective factors, however students with learning disabilities report a higher drive for achievement. The desire to succeed and goal setting were also considered fundamental to the accomplishments of successful adults with learning disabilities (Reiff, Gerber, & Ginsberg, 1997). The possibility needs to be considered that determination or the drive to achieve may have differential significance for successful adaptation for students with learning disabilities.

Working Harder/Persistence

In both components of the study the students revealed that not only were they determined to succeed but also they were prepared to make the effort and secure the time that was required to succeed. This extraordinary amount of time, effort and energy may be considered a compensatory strategy (Reis, McGuire, & Neu, 2007). Having a learning disability necessitates extra time be spent on academics. In order to find the necessary time to compensate for their learning disability these students decreased their social time and became very organized.

Helpfulness/Making a Difference

Surprisingly, all the participants in the qualitative study and a majority of respondents to the survey wanted to make a difference in the lives of others. Rather then succumbing to difficult circumstances, they want to share their experiences, and demonstrate that challenges could be overcome. Little is known of this quality of helpfulness in individuals with learning disabilities. Shessel and Reiff (1999) found that 8 of the 14 adults with learning disabilities also felt that having a learning disability fostered their desire to help others. Does the need to make a difference in the lives of others promote the reinterpretation of a learning disability positively? This question requires further exploration.

Positive Perceptions

Many of the participants and respondents either had a positive perception of their disability or they were able to reframe their disability positively. The majority saw their disability as a challenge that had to be overcome; most had learned to compensate for their disability. They believed that their creativity was in some way connected with their disability, and most believed that having a learning disability made them stronger. It is unknown how the mechanism for acquiring a positive perception or reframing was activated, and whether it was prompted internally or externally.

Supporters

The importance of responsive caring adults as predictors of resilient status permeates the literature on resilience. Interestingly, although the important role of supporters was acknowledged in both parts of the research, there was a difference as to who fulfilled this role. Whereas the participants in the qualitative study more frequently spoke of the profound impact of teachers and professors than of their parents, 70% of the respondents to the questionnaire agreed that their parents helped them the most.

Having encouraging parents may have lessened the significance of other adults in the lives of the respondents to the questionnaire; however, it is unclear what function in the familial environment created this affirmation.

Diverse Educational Trajectories

The majority of students in both components of the research followed diverse educational paths towards a university education. They upgraded their high school grades, and enrolled in university transfer programs. Artistic ability and mature student status were also used when seeking admission to university. It would appear that diverse pathways to university are valid trajectories for students with learning disabilities.

Accommodations

The participants in both studies utilized the accommodations that were offered to them. This is not surprising given that they were recruited for this study through the Disabilities Services at their university. However, comments made in the interviews and written in response to the questionnaire speak to the relief that these students felt when they finally understood what was "wrong," such as this comment written by a respondent, "Being diagnosed with a learning disability in university was a complete relief for me. I no longer continued to struggle with learning as much as in the past and I finally had an answer." An assessment offered these students access to accommodations that assisted them in successfully completing course work. The additional benefit was the connection quite a few participants and respondents formed with the disabilities service office. However, one of the most important accommodations was a reduced course load. A reduced course load may almost be considered a necessity because it allowed these students the extra time they may need to compensate for their difficulties in learning.

Implications for Educators

There are several implications for educators from this study.

1. Ensure that educators at all levels have the ability not only to identify the possibility of a learning disability, but that they are also able to recognize the exceptional abilities in students who are learning disabled. Ideally an identification of a learning disability should take place in early elementary school. As one respondent commented, "The biggest problem that I had is that I wasn't diagnosed until I was in third year university and already on academic probation. I think this has caused more social problems because I questioned myself more that anyone else because I never questioned whether I had a disability or not."
2. Convey to all professionals who interact with students who have learning disabilities the profound effect their interactions have on these students.
3. Consult with the student when making decisions with respect to academic programming.
4. Encourage self-understanding. Students with learning disability need to be aware of their strengths and weakness so they could better adapt and compensate for their learning difficulties.
5. Teach goal-setting and coping skills such as Lazarus and Folkman's (Bland &Sowa, 1994; Sowa & McIntire, 1994) cognitive appraisal paradigm to help students with learning disabilities to process failures and disappointments with reframing. This would facilitate control in difficult situations (Gardynik & McDonald, 2005).
6. Explicitly teach an awareness and regulation of one own cognitive processes or metacognition. Self-regulation is influenced and influences

motivation in a reciprocal relationship. Over time students may realize that they enjoy learning for its own sake and that it is through their own self-directed actions that they are acquiring mental competencies (Borkowski, 1992).

7. Mentor and guide self-advocacy so that students with learning disabilities are able to ensure that they are receiving the necessary educational accommodations. Receiving accommodations may mean the difference between success and failure (Skinner, 2004).
8. Be aware that a reduced course load may be necessary to ensure academic success.
9. Encourage students with learning disabilities to form strong relationships with academic advisors. An academic advisor who understands and believes in the ability of the student with learning disability is a very important components of academic success.
10. Recognize that diverse pathways to university are valid trajectories rather than "back doors" for students with learning disabilities.
11. Recognize the importance of a strong, supportive familial environment.

Questions That May Merit Further Research

Masten et al., (1999) stressed the need for research to more finely differentiate among those factors that could account for resilient versus maladaptive pathways of development in adverse environments. It is with this intention that the research questions that follow directly from this study are presented.

1. Are students with learning disabilities who are successful in their pursuit of a university education necessarily stronger in the personality qualities of

determination, perseverance, and effort than students with disabilities who are unsuccessful?

2. How is the need for achievement ignited? For if we can discover how to kindle this level of determination and motivation, it could change the educational aspirations for those with leaning disabilities?
3. What mechanism enables some students with disabilities to not only to circumvent the negative messages they received but also to use these negative messages as motivators?
4. Are students with learning disabilities more likely to choose careers in the helping professions? Do these individuals gravitate to the helping profession to emulate the people that offered them assistance, or to help alleviate for others the challenges they themselves have faced?
5. Does cognitive ability influence the ability to compensate for learning disabilities creatively and thus, the ability to reinterpret a learning disability positively?
6. To what extent do accommodations contribute to the academic success of students with learning disabilities at the post-secondary level?
7. Would a similar pattern of results be found with university students who choose not to formally identify themselves as having a learning disability?
8. How do social economic status, cognitive ability, and severity of the learning disability influence the pursuit of a university education?

Future Research

The construct of resilience is inferred rather than studied directly (Luthar & Zelazo, 2003). It is also multidimensional in nature. These two properties necessitate

creativity when studying positive adaptation. Three approaches that may be of interest in the further study of this construct will be discussed.

Critical Incident Technique

The critical incident technique was developed to solicit descriptions of incidents that have specific significance to the participant and that offer the researcher a more direct observation of human behaviour (Flanagan, 1954). A critical incident has been defined as a human event that is comprehensive enough in itself to allow extrapolations and predictions to be made about the people involved (Reiff, Gerber, & Ginsberg, 1997), the assumption being that a pivotal moment that can be recalled and fully described by an individual has had an important effect on that individual (Maker, 1978 cited in Reiff et al., 1997).

This technique is especially relevant given that the study of resilience is focused on adaptive versus maladaptive pathways of development in lives through time. Special attention is paid to turning points in people's lives because opportunities and choices at crucial periods play an important role in the life course of resilient individuals (Masten, 2001). At these critical turning points, an individual is likely to overcome or succumb to challenging circumstances (Werner, 1993). Resilient individuals appear to have the ability to select affirmative contexts. This behaviour is difficult to study because of the variability in timing and situations (Masten, 2001). By asking participants to recall pivotal moments, the turning points in their lives may become apparent. Reiff et al. (1997) also suggest that positive reinforcement at important times gives "an extra boost," laying the foundation for resilience and that critical events can be considered protective factors in the parlance of the literature on risk and resilience.

An attempt was made in the qualitative component of this research to solicit pivotal moments, however due to lack of clarity in definition, they were not included in the report of the qualitative study. Two examples follow.

> I was getting bored in the hospital and I was in there for two weeks. There was a girl that was there with the same name as me and she looked healthy. She was one or two years older than I was and very wise. One day she came out of her room and she had to get her hair cut off because she was going for surgery. It was then that I found out she had brain cancer. None of her parents were there; the entire two weeks she was all alone and her parents were on vacation. This had been a recurring thing so she told her parents not to come. I though geez, I am beating myself up over not being able to read a book but she is dealing with something bigger and she is the happiest person I've ever seen. Then I pulled out the book. I started reading. I could read individual words if I sounded them out but I couldn't look at a word and just say it. I don't think that I read anything before and I hesitate to say that I could even read an entire sentence. I started with the title and got over it. Read the first page, re-read it over and over again. The further I got into the books, it was a mystery and I loved it and I start reading from than on. (Anne)

> Often things that change in life can sort of trigger the next step. And that was the case...usually some sort of depression is brought on by some sort of traumatic...by the death of someone, and it actually had. But it was the death of someone that I wasn't very fond of. When that person did die, then I went through a point where I felt safe and I got really angry, and depression set in, so I ended up getting some counselling for that. It was through that, getting the help, discovering all kinds of things, the epiphany was there, that I wanted to go onto a higher education...It was a critical point. So I'm going, well, if I want to go on and get into counselling, you've got to go back to school for that. That was clear. So that was sort of that point where things started to really come into...become clear for me. And it was like ok, boom, you know what, I'm going to go back to school. So then it was all right, what do I need to do to go about that. (Margaret)

Both of these participants recalled events in their lives that had an important effect on them. In the first case, the pivotal moment resulted in the motivation to read; in the second case, a series of events led to the decision to pursue a university education. In both cases, the consequences of the decisions made at that particular moment were far reaching.

Metaphoric Language

Metaphors are an important rhetorical device, and they are fundamental to thought itself (Gibbs & Franks, 2002). Metaphors are employed in counselling (Bergman, 1985; Gordon, 1978; Keeney, 1983) and in medical settings (Gibbs & Franks, 2002). They form a common vocabulary that is capable of conveying for some individuals their experience of the world (Gordon, 1978) thereby facilitating change. In the field of medicine metaphors are important in thinking and speaking about illness because they provide a tool for communication about senseless suffering and they offer the individual a blueprint for personal transformation in coping with illness (Gibbs & Franks,2002).

Metaphorical language is used in the area of leaning disabilities; however, it is most frequently used to describe instruction and as a tool to assess individual cognitive ability, creativity, and abstract reasoning ability (Lee & Kamhi, 2001). These are the bases of critical thinking. Metaphoric competence also provides a measure of conceptual and linguistic abilities (Lee & Kamhi, 2001). Although more research is necessary, the importance of competence in metaphoric language for individuals with LD needs to be considered. The possibility needs to be considered that metaphors may constitute a protective factor that offers students with LD a means of communicating and making sense of their experiences, and, thereby, facilitating transformation.

Dynamic Systems Model

Masten et al. (1999) believe that developmental models that will be able to accommodate a large range of variations in individuals and their environments will subsume the study of resilience (Please see paper one). A dynamic systems model may offer a creative way to study resilience. According to Eckstein (2000), a dynamic system is simply a system that changes with time. The more technical term "dynamical systems" refers to the mathematical equations that describe particular properties over time

(Thelen & Smith, 2001). Therefore, a dynamic system model specifies a formal relationship between a set of variables at one point in time and a set of variables at a previous point in time (Van Geert, 1998). In this model, "order, discontinuities, and new forms emerge precisely from the complex interactions of many heterogeneous forces" (Thelen & Smith, 1994, p. 37). Thelen and Smith (1998) state two propositions:

1. Development can only be understood as the continuous interaction of all levels of a developing system from the molecular to the cultural.
2. Development can only be understood as connected processes that become manifested over many time scales, from milliseconds to years (p. 563).

Therefore Thelen and Smith (1998) believe that dynamic systems "provides theoretical principles for conceptualizing, operationalizing, and formalizing these complex interrelations of time, substance, and process" (p. 563). Given that resilience should not be identified at one point in time or with respect to a single outcome (Pianta & Walsh, 1998), rather, it is a dynamic process whereby development is the function of repeated resilient integrations (Richardson, 2002) over time, the dynamic system model may offer a creative approach to the investigation of this construct.

On a Personal Note

All the participants in this research were eager to share their stories. Many made it clear to me that this was the first time anyone was willing to listen to their "whole" story. Comments made once the interviews were completed suggest that the process may have had a positive effect on many of the participants. For example, one of the participants disclosed in a follow-up email that he/she "believed for a while now that I needed to see myself through someone else's eyes because I cannot see who I am. I have a distorted concept of myself/one sided critical perception.... thank you for helping me see I have [the] ability within me to fulfill my true potential." Perhaps if all dimensions

of an individual's experience are considered rather then just their disability, this kind of distorted critical perception could be avoided.

The most significant finding for me personally was the overall impact that professional interactions had on the lives of the participants. I would characterize some of these interactions as pivotal to individual development and adaptation. A positive interaction could be so momentous as to change the life trajectory. A negative interaction could be so serious as to have lifelong repercussions. The interviews confirmed that students with learning disabilities are not always consulted or even informed (in some cases) of the decisions made for them with respect to academic programming. My impression is that many of the participants felt they had little control over their education. Control was found to be a fundamental factor in the success of adults with learning disabilities (Reiff, Gerber, & Ginsberg, 1997) and is a key component of mental health.

I believe that students with disabilities need to be heard and their experiences acknowledged. They should be consulted with respect to educational programming. Professionals who work with students with learning disabilities must be made aware of the profound effect their interactions have on students, as these effects can be life changing.

In summary, students with learning disabilities, by definition, have the cognitive ability to pursue a university education. This study was an attempt to identify those factors that may influence their decision to pursue a university education. It does not however, pretend to give a comprehensive examination of those factors; rather it was explorative in nature. Further, more rigorous research is necessary to prove the validity of these findings.

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